

(2)  
AD-A256 876



DOES THE HEAVY MANEUVER BRIGADE COMMANDER NEED  
AN ORGANIC RECONNAISSANCE/SECURITY ORGANIZATION?

A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree

MASTER OF MILITARY ART AND SCIENCE

by

DTIC  
S ELECTED NOV 9 1992 D  
C

KENNETH L. BOEGLEN, MAJ, USA  
B.A., Kean College of New Jersey, Union, New Jersey, 1979

Fort Leavenworth, Kansas  
1992

Approved for public release; distribution is unlimited

92-29119



92 11 06 046

# REPORT DOCUMENTATION PAGE

Form Approved  
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED	
		Master's Thesis 1 AUG 91 - 5 JUN 92	
4. TITLE AND SUBTITLE  Does the Heavy Maneuver Brigade Commander Need an Organic Reconnaissance/Security Organization?			5. FUNDING NUMBERS
6. AUTHOR(S)  Major Kenneth L. Boeglen			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)  U.S. Army Command and General Staff College Attn: ATZL-SWD-GD Ft. Leavenworth, KS 66027-6900			8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER
11. SUPPLEMENTARY NOTES			
12a. DISTRIBUTION/AVAILABILITY STATEMENT  Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE
13. ABSTRACT (Maximum 200 words) This study investigates whether a deficiency exists in the reconnaissance and security assets at the heavy maneuver brigade level. Using the battlefield Blueprint and the layering effect of reconnaissance from corps to brigade level units, the study determined that a deficiency exists at the maneuver brigade level. The current brigade has two inherent problems. One is not having an asset to complement the reconnaissance/security assets at division and battalion. The second is not having a dedicated, responsive ground reconnaissance/security force to compliment electronically based resources. Brigade mission requirements, as determined by CBRS, were compared with the mission profile of a brigade reconnaissance/security asset which determined the doctrinal requirements for such an organization. It suggests a layering system of reconnaissance and security which is charged with acquiring the commander's vital information needs as expressed in his Priority Intelligence Requirements (PIR). The study also provides the basis for determining the required size of the reconnaissance organization by comparing the reconnaissance, security, and deployability of several different reconnaissance organizations. The author recommends the Armor School conduct an in-depth study on the feasibility of this concept.			
14. SUBJECT TERMS  Div 86, AOE Brigade Scouts, Reconnaissance, Security, NTC CBRS process, Brigade scout organizations.			15. NUMBER OF PAGES  204
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT  UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE  UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT  UNCLASSIFIED	20. LIMITATION OF ABSTRACT  UNCLASSIFIED

**DOES THE HEAVY MANEUVER BRIGADE COMMANDER NEED  
AN ORGANIC RECONNAISSANCE/SECURITY ORGANIZATION?**

**A thesis presented to the Faculty of the U.S. Army  
Command and General Staff College in partial  
fulfillment of the requirements for the  
degree**

**MASTER OF MILITARY ART AND SCIENCE**

**by**

**KENNETH L. BOEGLEN, MAJ, USA  
B.A., Kean College of New Jersey, Union, New Jersey, 1979**

**Fort Leavenworth, Kansas  
1992**

**NTIC QUALITY INSPECTED 4**

**Approved for public release; distribution is unlimited**

Accession No.	
NTIS Code	
NTIC Ref	
Classification	
By _____	
Distribution/ _____	
Availability Codes _____	
Dist	Normal and/or Special
A-1	

MASTER OF MILITARY ART AND SCIENCE

THESIS APPROVAL PAGE

Name of candidate: MAJ Kenneth L. Boeglen

Title of thesis: Does the Heavy Maneuver Brigade Commander  
Need an Organic Reconnaissance/Security Organization?

Approved by:

Rebecca Campbell, Thesis Committee Chairman  
Dr. Rebecca Campbell, Ph.D.

Roger Wilson, Member  
LTC Roger Wilson, CRWD, DJCO

Geoffrey Greetham, Member  
MAJ Geoffrey Greetham, CTAC

Accepted this 5th day of June 1992 by:

Philip J. Brookes, Director, Graduate Degree  
Philip J. Brookes, Ph.D. Programs

The opinions and conclusions expressed herein are those of  
the student author and do not necessarily represent the  
views of the U.S. Army Command and General Staff College or  
any other governmental agency. (References to this study  
should include the foregoing statement.)

## ABSTRACT

Does the Heavy Manuever Brigade Commander Need an Organic Reconnaissance/Security Organization? by Major Kenneth L. Boeglen, USA, 204 pages.

This study investigates whether a deficiency exists in the reconnaissance and security assets at the heavy maneuver brigade level. Using the battlefield BluePrint and the layering effect of reconnaissance from corps to brigade level units, the study determined that a deficiency exists at the maneuver brigade level. The current brigade has two inherent problems. One is not having an asset to complement the reconnaissance/security assets at division and battalion. The second is not having a dedicated, responsive ground reconnaissance/security force to compliment electronically based resources. Brigade mission requirements, as determined by CBRS, were compared with the mission profile of a brigade reconnaissance/security asset which determined the doctrinal requirements for such an organization. It suggests a layering system of reconnaissance and security which is charged with acquiring the commander's vital information needs as expressed in his Priority Intelligence Requirements (PIR). The study also provides the basis for determining the required size of the reconnaissance organization by comparing the reconnaissance, security, and deployability of several different reconnaissance organizations. The author recommends the Armor School conduct an in-depth study on the feasibility of this concept.

#### ACKNOWLEDGMENTS

I wanted to thank several individuals for their support in the completion of this study. Due to their persistence, patience and encouragement I was able to accomplish this task.

Dr. Rebecca Campbell who provided leadership to the committee and gave me the impetus to start the program. She provided the focus for me and took the time to consolidate some disjointed writings and help me articulate the problem and solutions.

LTC Roger Wilson provided the solid thought processes from a tactical perspective. He made me think about the big picture.

MAJ Geoffrey Greetham provided exhaustive questions and necessary insight to motivate me to prove beyond a shadow of a doubt, the answers to the thesis question.

Dr. Frank Campbell's experience, invaluable contacts within the CAC community enabled me to acquire the research materials much quicker and ultimately get to the bottom line.

I want to thank the Combined Arms Research Library Staff, especially Mr. McClean for their time, energy and patience.

Last, but not least I want to thank my family who provided the moral support, inspiration and love to see this paper to completion. Thank you Ann, Elizabeth and Dad!

## TABLE OF CONTENTS

ACKNOWLEDGEMENTS . . . . .	iv
TABLE OF CONTENTS . . . . .	v
LIST OF TABLES . . . . .	viii
LIST OF FIGURES . . . . .	ix
CHAPTER	
1. INTRODUCTION . . . . .	1
PURPOSE . . . . .	1
BACKGROUND . . . . .	1
STATEMENT OF THE PROBLEM . . . . .	4
ASSUMPTIONS . . . . .	5
LIMITATIONS . . . . .	6
DELIMITATIONS . . . . .	6
SIGNIFICANCE . . . . .	7
DEFINITIONS . . . . .	7
ENDNOTES . . . . .	17
2. REVIEW OF LITERATURE . . . . .	19
INTRODUCTION . . . . .	19
DOCTRINE . . . . .	20
STUDIES . . . . .	38
WHITE PAPERS . . . . .	61
MONOGRAPHS . . . . .	64
ARTICLES AND PERIODICALS . . . . .	71
BOOKS . . . . .	79
DOCUMENTATION FROM TRAC AND FORT KNOX . . . . .	94
COMMANDERS COMMENTS . . . . .	103

INTERVIEWS . . . . .	107
ENDNOTES . . . . .	109
<b>3. METHODOLOGY . . . . .</b>	<b>121</b>
GENERAL . . . . .	121
CONCEPT BASED REQUIREMENTS SYSTEM . . . . .	122
METHODOLOGY . . . . .	125
BATTLEFIELD BLUEPRINT . . . . .	129
MISSION CAPABILITIES/DEFIENCIES . . . . .	131
MISSION PROFILE . . . . .	134
HISTORY . . . . .	136
ENDNOTES . . . . .	139
<b>4. ANALYSIS . . . . .</b>	<b>141</b>
BACKGROUND . . . . .	141
DOCTRINE . . . . .	142
LAYERING EFFECT . . . . .	144
BATTLEFIELD BLUEPRINT . . . . .	147
TRAINING . . . . .	157
ORGANIZATION . . . . .	158
MATERIALS . . . . .	158
ALTERNATIVES . . . . .	161
SUGGESTED ORGANIZATIONS . . . . .	164
BILLPAYERS . . . . .	177
CONCLUSION . . . . .	179
ENDNOTES . . . . .	180
<b>5. CONCLUSION . . . . .</b>	<b>182</b>
FINDINGS . . . . .	183

SUB-ISSUE ONE	184
SUB-ISSUE TWO	185
SUB-ISSUE THREE	186
SUB-ISSUE FOUR	186
RECOMMENDATIONS	189
ENDNOTES	192
BIBLIOGRAPHY	193
INITIAL DISTRIBUTION LIST	204

## LIST OF TABLES

<b>Table</b>		<b>Page</b>
1. Mission Accomplishment Comparative Analysis . . . . .		42
2. Brigade Reconnaissance Element Mission Profile . . .		134
3. Brigade Security Mission Requirements . . . . .		143

## LIST OF FIGURES

Figure	Page
1. FM 71-100, Division Column of Brigades . . . . .	28
2. FM 71-100, Division Line of Brigades . . . . .	29
3. Brigade Movement to Contact Formation . . . . .	32
4. Brigade on Line . . . . .	33
5. Brigade in Column . . . . .	34
6. Brigade in VEE Formation . . . . .	35
7. ARMOR 2000, Task Organized Brigade . . . . .	57
8. ARMOR 2000, Combined Arms Brigade . . . . .	57
9. ARMOR 2000, Brigade/Battalion Scout Platoon . . .	58
10. Reconnaissance/Security Layering of the Battlefield . . . . .	66
11. Comparision of Reconnaissance Worldwide . . . . .	90
12. Methodology . . . . .	127
13. BluePrint of the Battlefield . . . . .	130
14. Mission Capabilities/Deficiencies . . . . .	132
15. Mission Capabilities/Deficiencies . . . . .	133
16. Proposed Heavy Brigade Reconnaissance Troop . . .	137
17. Reconnaissance Layering Effect . . . . .	144
18. Layering Effect and Reporting Procedures . . . .	145
19. BluePrint of the Battlefield . . . . .	148
20. Mission Capabilities/Deficiencies . . . . .	150

21.	Mission Capabilities/Deficiencies	152
22.	Troop Organization One	165
23.	Personnel and Equipment Shortages	165
24.	Troop Organization Two	167
25.	Personnel and Equipment Shortages	167
26.	Troop Organization Three	169
27.	Personnel and Equipment Shortages	169
28.	Troop Organization Four	171
29.	Personnel and Equipment Shortages	171
30.	Troop Organization Five	173
31.	Personnel and Equipment Shortages	173
32.	Troop Organization Six	175
33.	Personnel and Equipment Shortages	175
34.	Proposed Brigade Reconnaissance Troop	187
35.	Requirements	187

## CHAPTER 1

### INTRODUCTION

You can never do too much reconnaissance.

GEN George S. Patton, Jr.

#### Purpose

The purpose of this paper is to define the need for organic brigade reconnaissance organizations and to focus on the enhancement that a reconnaissance/security organization would provide the brigade combat capability. Such an organization would be used to provide combat information. It would enhance the ability of the brigade to gather intelligence and would be of great assistance to the brigade commander in employing his forces at the proper place and time.

#### Background

U.S. Army doctrine states that engagements will be fought at division and smaller unit level.<sup>1</sup> The divisional ground maneuver brigade is the first echelon of command where tactical success is critical to division operations. Currently there is no organic reconnaissance/security asset in the heavy division brigade. AirLand

Battle doctrine requires closest coordination of all units in the brigade and is stated as follows:

Brigades combine the efforts of their battalions and companies to fight engagements and to perform major tactical tasks in division battles. Their chief tactical responsibility is synchronizing the plans and actions of their subordinate units to accomplish a single task for the division or corps.<sup>2</sup>

The brigade must prepare for deep, close, and rear operations within its area of interest. The actions taken by the brigade will influence the outcome of the tactical situation. The brigade must be augmented with additional assets to accomplish its missions. The division usually task organizes brigades to perform missions in support of the division. Augmented assets (such as Nuclear Biological Chemical (NBC) Decontamination Platoons, Intelligence and Electronic Warfare Support Element (IEWSE), Engineers, Military Police (MP)) are habitually assigned to the brigade; often these resources can not perform all of their inherent missions.

For example, the Military Police are used for straggler and prisoner of war (POW) control, lines of communication (LOC) security, and Level II threat. However, the MP's first priority mission is for battlefield circulation control. If the MP platoon were tasked for all of these missions at the same time, the platoon would not be able to accomplish its mission as occurred during Operation

Desert Storm, due to the number of enemy prisoners of war (EPWs) who were collected.<sup>3</sup>

The Nuclear, Biological, Chemical (NBC) platoon attached to the brigade is primarily a decontamination asset and not a reconnaissance asset. The NBC platoon can not be used in an NBC reconnaissance role unless it is augmented from the corps reconnaissance assets.<sup>4</sup>

Our doctrine evolved from past lessons learned and the need to build a force structure that can successfully engage under such doctrine. The resulting force structure, influenced by our evolving technology, provides the organizational basis for organizations which commanders can use to fight and win on any battlefield. This continuous cycle has been the focus of our Army leadership since World War II.

The FM 71-3, Armored and Mechanized Infantry Brigade states that as part of the brigade's battlefield focus, the brigade becomes the base echelon of command that "must create the time and space necessary for its major subordinate echelons to defeat enemy forces in contact before engaging those not yet in contact."<sup>5</sup>

The current force structure is established in the Army of Excellence (AOE) Final Report. Brigades are now, and have been training at the National Training Center (NTC) under this Table of Organization and Equipment (TO&E) for a number of years. The brigade organization is the

focal point for tactical success and it is clear that even with the tailoring discussed above, the brigade needs key organic reconnaissance assets.<sup>6</sup>

#### Statement of the Problem

A review of literature dealing with the adequacy of reconnaissance and security capabilities at the brigade level indicates that there is a need for further study of brigade reconnaissance organizations. The lack of such an organization creates a gap in the informational needs of the brigade commander. These needs must be met and are currently gained only by degrading brigade combat power. The degradation of combat power is accomplished by taking assets from within the battalions. The dilemma of having to choose between degraded Command, Control, Communication and Intelligence (C<sup>3</sup>I) or reduced combat power constitutes the core of the problem to be studied.

In answering the thesis question, "Does the Heavy Ground Maneuver Brigade Commander Need an Organic Reconnaissance/Security Organization?", four objectives must be accomplished.

The first is to provide a current answer to this question using doctrine and mission requirements for the brigade. The second is to determine why the brigade is the only maneuver asset without its own reconnaissance and security organization. The third is to demonstrate how the

organization can enhance the brigades performance using NTC and Desert Storm after action reports (AARs) to support the argument. Finally, this report will proffer some suggestions as to how the Army may rectify this problem.

#### Assumptions

Four assumptions are basic in this study.

AirLand Battle doctrine is valid and historical data will support the thesis that a reconnaissance/security unit is required at the brigade level.

The scout platoon proposed by Division 86 and General Foss's article is inadequate to complete the missions required and inadequate to perform its mission profile.

The current budget trends and personnel cuts will continue to negatively impact the force structure within the Army. New weapons and equipment systems will continue to be implemented into the U.S. Army, for example, the Armored Gun system (AGS), the MK-19 - 40 millimeter grenade launcher, Global Positioning System (GPS), vehicle mounted integrated azimuth indicator, and a redundant identification friend or foe (IFF) system. These items are important due to the proven speed, range, and lethality of our vehicle systems.

The ideas or organizations presented attempt to conform to the zero growth constraints enforced by TRADOC;

meet the brigade commander's informational requirements; and conform to doctrinal standards.

#### Limitations

This paper will not be able to determine the force structure and the effect on the future force with budget and zero growth constraints. The research only focuses on the heavy force structure and does not account for light organizations.

Time constraints placed in this paper reflect our latest battles and actions at NTC. This paper emphasizes the ability of the brigade to fight but adds the ability to maneuver and see the battlefield.

The research design is solid, but it is difficult to assign reconnaissance and security values during modeling, for example, loss exchange ratios (LERs) done with maneuver units.

#### Delimitations

The focus of this study is on the evolution of the problem from 1942 to the present. The gap in the reconnaissance assets from corps to battalion level leaves an organizational void but still remains a doctrinal requirement. The gap was created when the Army of Excellence study, circa 1984, cut the reconnaissance organization from brigade assets. This action reduced the

brigade combat power by forcing the commander to use combat forces to fill this role.

#### Significance

The research conducted during this study will help determine the reconnaissance and security organization needed to give the Heavy Brigade Commander a robust organization which can not only be the "eyes and ears" for the commander but can fight for information when necessary. The unit must have the ability to switch from information gathering to security, when needed. Most importantly this organization will provide the commander with the information he needs to "see" the battlefield.

The research attempts to explain why such systems as the remotely piloted vehicle (RPV) can not provide the commander with the ability to confirm or deny information by human presence in a questioned area.

This study will provide recommendations to TRADOC and to the Armor Center for a solution of the brigade reconnaissance problem.

#### Definitions

Definitions that are integral to this study are in accordance with Field Manual 71-100, Division Operations, dated June 1990; Field Manual 101-5-1, Operational Terms and Symbols, dated October 1985; and Field Manual 71-3,

Armored and Infantry Brigade dated May 1988. These definitions provide the basis for units that are tasked to provide informational support within the division. Armor and infantry units can be tasked to perform some of the missions described in these definitions.

1. Reconnaissance Operations, according to FM 71-100, provide information on the terrain and enemy to the division commander, maneuver brigades, and staff. Reconnaissance verifies or refutes analyzed information in Intelligence Preparation of the Battlefield (IPB) products. Reconnaissance may be mounted, dismounted, aerial, or a combination of these actions. Any element assigned or supporting the division may be tasked to perform reconnaissance operations. Reconnaissance elements employ stealth, infiltration, movement, observation, and special equipment to obtain information throughout the division area. Reconnaissance elements may be required to fight to gain intelligence in support of the division mission through combined arms teamwork without degrading the primary mission of reconnaissance.

This means that reconnaissance elements cannot get decisively engaged. The engagement deters the unit from completing the reconnaissance mission because it is now fighting for its survival.

There are three distinct types of reconnaissance operations that may be performed by division reconnaissance

elements: route, zone and area. As with all missions, depending on the level performed, each may be a separate mission or part of another operation.<sup>7</sup>

Numerous examples of the brigade conducting reconnaissance and security missions are in FM 71-3. The bottom line is that brigades in the division do not have an organic organization to conduct these missions.

2. Reconnaissance is defined in FM 101-5-1 as a mission undertaken to obtain information, by visual observation or other detection methods, about the activities and resources of an enemy or potential enemy, or about the meteorologic, hydrographic, or geographic characteristics of a particular area.<sup>8</sup> There are three types of reconnaissance and each type must be discussed in depth.

a. Route reconnaissance is a directed effort to obtain detailed information of a specified route or axis and all terrain from which the enemy could influence movement along that route.<sup>9</sup> One should take note the word axis used in this definition refers to axis of attack or advance which most brigades draw on the map and then try and adher to rather than use reconn-pull processes discussed below.

b. Area reconnaissance is a directed effort to obtain detailed information concerning the terrain or enemy activity within a prescribed area such as a town,

ridge line, woods, or other feature critical to operations.<sup>12</sup>

c. Zone reconnaissance is a directed effort to obtain detailed information concerning all routes, obstacles (to include chemical or radiological contamination), terrain and enemy forces within a zone defined by boundaries. A zone reconnaissance normally is assigned when the enemy situation is vague or when information concerning cross-country trafficability is desired.<sup>13</sup>

It is important to note that all reconnaissance definitions contain the words "detailed information". A reconnaissance element can only gain this information with the proper amount of time allotted for the mission. All too often this time is unavailable.

3. Reconn-pull is a non-doctrinal term that appeared in several reconnaissance studies and assessments produced by the Infantry and Armor Centers.<sup>10</sup> This process emphasizes finding and exploiting enemy weaknesses through reconnaissance operations. It transcends the isolated activity of reconnaissance which serves to obtain information about enemy activities and resources. Recon-pull encompasses the employment of information-gathering units and systems to locate and quickly exploit enemy weaknesses. This process should determine the unit's axis of attack or axis of advance, based on the results of

the reconnaissance, rather than having it firmly fixed by the commander prior to commencement of the operation.<sup>11</sup>

The "Recon-pull" process used reconnaissance to determine routes suitable for maneuver, to determine enemy strengths and vulnerabilities, and then "pulls" the main attacking body along the path of least resistance to accomplish the objectives of the commander.

4. Security operations are described in FM 71-100 as operations that provide information about the enemy and provide reaction time, maneuver space, and protection to the division. When properly task organized, augmented and supported, any element assigned or supporting the division may be tasked to perform security operations.

The three primary types of security missions are screen, guard, and cover. The difference between these missions is the degree of protection and security provided. In addition, the division will conduct other security missions as part of tactical operations that also serve to protect the force and its mission. These other security missions include, but are not limited to counter-reconnaissance, electronic countermeasures, electronic support measures, deception operations, OPSEC, and cover and concealment.<sup>14</sup>

5. Security operations are characterized by aggressive reconnaissance to reduce terrain and enemy unknowns, gaining and maintaining contact with the enemy to

ensure continuous information, and providing early and accurate reporting of information to the protected force. Security operations include screening operations, guard operations, covering force operations, and area security operations. Security operations may be oriented in any direction from a stationary or moving force.<sup>15</sup>

a. The screen is the most common mission for security assets to perform, either in the offense or the defense. A screening force maintains surveillance, provides early warning to the main body, impedes and harasses the enemy with supporting indirect fires, and destroys enemy reconnaissance elements within its capability.<sup>19</sup> A screen mission often demands great flexibility and usually transforms into a guard (discussed below). This occurs is when the commander is not fully prepared to execute the mission or the enemy has entered and disrupted his decision cycle. The commander uses the security forces in this situation, because they are in close proximity to the enemy and the force gains and maintains contact. To break contact would violate the one of the fundamentals of security.

b. A guard missic accomplishes all the tasks of a screening force. Additionally, a guard force prevents enemy ground observation of and direct fire against the main body. A guard force reconnoiters, attacks, defends, and delays, as necessary, to accomplish its mission. A

guard force normally operates within the range of the main body indirect fire weapons.<sup>17</sup>

c. A covering force accomplishes all the tasks of screening and guard forces. Additionally, a covering force operates apart from the main body to develop the situation early and deceives, disorganizes, and destroys enemy forces. Unlike screening or guard forces, a covering force is a tactically self-contained force. (It is organized with sufficient combat support and combat service support forces to operate independently of the main body.)

It is easily understood that a covering force operates out of range of the main body's indirect fire assets. The tasks included in cover missions are often misunderstood and confused with tasks conducted in the screen and guard missions. The confusion stems from the process of commander accomplishing the mission by delaying, defending, and attacking. Many S-3s and commanders inaccurately assume that a force that can guard can also cover. Evidence shows that this is a training problem that should be addressed in the branch schools.

6. Area security operations are normally associated with rear battle operations. Rear battle forces neutralize or destroy enemy forces to defeat enemy attacks in the rear area.<sup>18</sup> The requirements of an area security force are delineated by the HQ assigning the mission.

7. Counter-reconnaissance is an integral part of the brigade security mission. The focus of the Threat's reconnaissance is to confirm or deny the intentions and dispositions of the forces it is attacking. Counter-reconnaissance consists of active measures designed to detect, fix, and destroy as well as passive measures designed to conceal, deceive, and confuse the enemy reconnaissance elements. The brigade must integrate these measures into a detailed reconnaissance and surveillance plan designed to prevent the threat from seeing and reporting the strength, composition, and location of the brigade and its obstacles. The brigade's primary focus in counter-reconnaissance is in providing and coordinating intelligence and fire support to help subordinate units (Task Forces) identify, fix, and destroy the enemy reconnaissance forces.<sup>19</sup>

8. Reconnaissance, surveillance, and target acquisition (RSTA) together represent a system of means by which the brigade commander collects the information he needs to conduct the battle.<sup>20</sup> The FM 34-2, Collection Management, added the term intelligence to the process. RISTA allows intelligence collection managers to collect information and to formulate and report intelligence about the battlefield.<sup>21</sup> (See item 2 for a definition of reconnaissance.)

9. Intelligence is the product resulting from the collection, evaluation, analysis, integration, and interpretation of all available information concerning an enemy force, foreign nations, or areas of operations and which is immediately or potentially significant to military planning and operations.<sup>22</sup> It is not just the analysis of information.

10. Surveillance is the systematic and continuous observation of an area in order to obtain information and can be conducted by visual, electronic, or other means.

11. Target acquisition refers to actions taken to detect, identify, and locate targets so fires can be brought to bear on them. This can be accomplished by visual or electronic means.<sup>23</sup>

12. Combat intelligence is knowledge of the enemy, weather, air, geographical features required by a commander in planning and conducting combat operations. It is derived from the analysis of information on the enemy's capabilities, intentions, vulnerabilities, and the environment.<sup>24</sup>

13. Combat information is unevaluated data gathered by or provided directly to the tactical commander that, because of its highly perishable nature or the criticality of the situation, cannot be processed into tactical intelligence in time to satisfy the user's tactical intelligence requirements.<sup>25</sup>

This paper will investigate the need for a reconnaissance/security element by focusing on doctrinal manuals from corps to brigade, comments made by commanders in the field, results from general officer boards, Center for Army Lessons Learned (CALL) publications, books, articles from magazines such as Infantry and Armor, and thoughts by military theorists.

## CHAPTER 1

### ENDNOTES

1. U.S. Army, Field Manual 100-5, Operations, (Washington, D.C.: U.S. Government Printing Office, 1986), 80.
2. Ibid., 184.
3. DESERT CAMPAIGN AFTER ACTION REPORT, Executive Summary and Historical Narrative. Headquarters, Seventh Corps, Volume 9, 29 May 1991, Tab O, O-5.
4. U.S. Army, Field Manual 3-100, NBC Operations, (Washington, D.C.: U.S. Government Printing Office, 1985), A-1.
5. U.S. Army, Field Manual 71-3, Armored and Mechanized Infantry Brigade, (Washington, D.C.: U.S. Government Printing Office, 1988), 1-4.
6. Ibid., 3-18.
7. U.S. Army, Field Manual 71-100, Division Operations. (Washington, D.C.: Department of the Army, 1990), 1-18.
8. U.S. Army, Field Manual 101-5-1, Operational Terms and Symbols. (Washington, D.C.: Department of the Army, 1985), 1-60.
9. Ibid., 1-63.
10. Major John D. Rosenberger, An Assessment of Reconnaissance and Counter-Reconnaissance Operations at the National Training Center. U.S. Army Armor School: Fort Knox, Kentucky, Feb 1987, 3.
11. Major Fredrick B. Kienle, "Reconnaissance-Pull" - Seeking the Path of Least Resistance. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. 1990, 3, 4.
12. U.S. Army, Field Manual 101-5-1, Operational Terms and Symbols. (Washington, D.C.: Department of the Army, 1985), 1-6.
13. Ibid., 1-75.

14. U.S. Army, Field Manual 71-100, Division Operations. (Washington, D.C.: Department of the Army, 1990), 1-18.
15. U.S. Army, Field Manual 101-5-1, Operational Terms and Symbols. (Washington, D.C.: Department of the Army, 1985), 1-64.
16. Ibid., 1-64.
17. Ibid.
18. Ibid.
19. U.S. Army, Field Manual 71-3, Armor and Mechanized Infantry Brigade. (Washington, D.C.: Department of the Army 1988), 4-11.
20. Major Guy C. Swan, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. December 1988, 4.
21. U.S. Army, Field Manual 34-2, Collection Management. (Washington, D.C.: Department of the Army 1990), 1-6.
22. Ibid., 1-6.
23. Major Guy C. Swan, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. December 1988, 2.
24. U.S. Army, Field Manual 101-5-1, Operational Terms and Symbols. (Washington, D.C.: Department of the Army, 1985), 1-15.
25. Ibid.

## CHAPTER 2

### REVIEW OF LITERATURE

No lesson seems to be so deeply inculcated by the experience of life, as that you should never trust in experts.<sup>1</sup>

Lord Salisbury

#### Introduction

The purpose of this chapter is to provide a review of literature that has an impact on the need for a reconnaissance/security element at the heavy maneuver brigade. The documentation is the collection of data that provides the basis of the analysis of this paper. Chapter Two will consist of an exploration of the following materials:

1. Doctrinal Manuals
2. Government studies (Division 86 and Army of Excellence)
3. General officer boards
4. White papers
5. MMAS and SAMS monograms
6. Periodicals and magazine articles

7. After Action Reports (National Training Center and Desert Storm)
8. Books
9. Documentation provided by the Armor School, Center for Lessons Learned and the Training and Doctrine Command Analysis Center
10. Commander's comments (corps, division and brigade level)
11. Interviews

The time frame discussed in this chapter is from 1942 to the present. Reconnaissance organizations influenced the thought processes and provided study information for much of the doctrine as we know it. The historical evolution of these organizations provided a traditional role in the Army, that has continued today.

#### Doctrine

Doctrinal literature provides a wide area of information, which includes discussion of organization manuals, missions, definitions and information about the parent organizations. These manuals also expose a gap at the brigade level in the layering of reconnaissance assets from battalion to corps echelons of command.

AirLand Battle doctrine is firmly founded on the principles of war. It provides the basis for our approach

to war, regardless of the situation. The four tenets of initiative, agility, depth and synchronization are key to warfighting success on the battlefield. These tenets are subdivided into operating requirements using the ten imperatives:

- \* Ensure unity of effort.
- \* Anticipate events on the battlefield.
- \* Concentrate combat power against enemy vulnerabilities.
- \* Designate, sustain, and shift the main effort.
- \* Press the fight.
- \* Move fast, strike hard, and finish rapidly
- \* Use terrain, weather, deception, and OPSEC (Operations Security)
- \* Conserve strength for decisive action.
- \* Combine arms and sister services to complement and reinforce.
- \* Understand the effects of battle on soldiers, units, and leaders.<sup>2</sup>

Commanders utilize what resources they currently have to accomplish the operating requirements listed above. At every organizational level, security plays an important role in accomplishing the first eight imperatives. The commander's ability to see the battlefield and make timely decisions hinges on his capability to fulfill some type of security mission requirements associated with the operating imperatives.

This is important because the brigade's chief tactical responsibility is synchronizing the plans and actions of their subordinate units to accomplish a single task for the division or corps.<sup>3</sup> The brigade's ability

to perform security operations on the battlefield is critical to the combat success of the organization. The divisional ground maneuver brigade commander must be able to protect his force, anticipate actions on the battlefield, and make timely decisions to concentrate his combat power.

Future battles, even conventional combat, are expected to be fought on a non-linear battlefield.<sup>4</sup> The nature of the battlefield will require a need for rapid movement and the ability to obtain a positional advantage over the enemy for overall success. The necessity to accomplish the AirLand Battle imperatives in this fluid environment permeates our doctrinal literature from corps to brigade level. The brigade's execution of operations across the battlefield framework is the key to winning engagements and battles for the division.

The division maneuvers its ground brigades into a positional advantage over the enemy, where the brigade combat power can be brought to bear. The use of maneuver allows units to inflict the greatest damage on the enemy by avoiding head-on encounters and by striking the vulnerable enemy flanks and rear where superior combat power can be achieved.<sup>5</sup> At the division level the divisional cavalry squadron is designed to accomplish security operations and provide the division commander the ability to protect his force on the battlefield.

Doctrine, at the divisional ground maneuver brigade level, incorporates the principles of security operations as essential to success. The brigade's superior performance in battle will be based on the commander's ability to be imaginative, flexible, and skillful in the prosecution of his mission. In order for the brigade commander to translate his potential combat power into victory, security operations will support the divisional ground maneuver brigade actions in offense, defense, and during movement.

In the offense, a key element of success for the brigade is the conduct of reconnaissance and security operations to the front, flanks and rear of the main and supporting attacks.<sup>6</sup> Planning, for the forms of offensive maneuver, must be flexible enough for the brigade to take advantage of any favorable opportunity that occurs during the attack. Surprise in the operation will also be sought by the commander in an effort to retain the initiative over the threat.<sup>7</sup> In terms of specific requirements, elements of the divisional ground maneuver brigade could possibly be tasked to perform the security operations of: reconnaissance, screen, guard, cover, and rear area security. Reconnaissance is included here from the force protection aspect of early warning provided for the divisional ground maneuver brigade.

For the defense, the brigade must perform security force operations to the front and flanks of the defending force while simultaneously conducting rear area security. Planning, for defensive operations, must be flexible enough for the brigade to act as part of a security force for a higher echelon of command or provide its own security force. The ability for the brigade to perform its own security operations affords the commander some freedom of action in the defense. However this is not desirable.<sup>8</sup>

Normally brigades defend in the main battle area or act as the higher commander's reserve. Security operations to the front and flanks coupled with the self-protection aspects inherent in rear area security enhances the brigade's ability to create an opportunity for it's higher headquarters to shift to the offensive.<sup>9</sup> Elements of the brigade could possibly be tasked to perform the security missions of: reconnaissance, screen, guard, cover, rear area security, counter-reconnaissance, and counter-attack.

During any type of movement the focus of the brigade security operations is protection for the force while maintaining continuous knowledge of the Threat and area of operations. All around security for the force is essential in the tactical environment. Currently the size and positioning of the security force are dependent upon the brigade mission and enemy situation. Security operations attempt to conceal, deceive, and confuse the

threat as to the true intentions of the brigade. In addition to the tasks noted for the offense and the defense, security operations may also be conducted in an economy of force role for the brigade.

Field Manual 17-95, Cavalry Operations, discusses the mission profile of reconnaissance and security organizations, and helps provide an understanding of what is expected of the cavalry regiment at the corps level and the squadron at the division level. It places these organizations in a realistic prospective showing how the higher echelons use these assets and helps define the gaps in our reconnaissance and security systems. This manual, in conjunction with Field Manual 101-5-1, Operational Terms and Symbols, provides many of the definitions and requirements for the use of reconnaissance and security forces from corps to battalion level.

Field Manual 17-98, Scout Platoon, provides the tactics, technics, and procedures, for reconnaissance in the smallest organic reconnaissance organization in the Army. This manual provides doctrine for the six vehicle reconnaissance platoon. One weakness is that it does not provide any direct information dealing with the battalion ten vehicle scout platoon approved in March of 1991 by the Chief of Staff of the Army.

Intelligence manuals like Field Manual 34-3, Intelligence Analysis, and Field Manual 34-130,

Intelligence Preparation of the Battlefield, provide the basis for the use of reconnaissance organizations and their relationship to the intelligence element of the battlefield operating system (BOS). The intelligence officer (S-2) provides the commander with information gathered from higher assets, and in conjunction with the commander and the operations officer (S-3), provides the reconnaissance and surveillance (R&S) plan to the scout platoon leader who must know his capabilities and articulate this plan to the platoon.

The platoon leader must also evaluate the information his unit provides to insure that his unit is not decisively engaged. If he cannot, he will attempt to accomplish impossible missions assigned to his element, such as "guarding the left flank."

The military intelligence and intelligence preparation of the battlefield manuals (FM 34 series) provide a stair-step approach to understanding military intelligence capabilities, requirements and equipment. This series created focus for understanding and cross referencing systems of information collection. The intelligence process works on a system of redundancy and is a system that allows information to be processed, targeted and engaged by electronic warfare or long range fires.

This system is the basis for the formulation of the reconnaissance, intelligence, surveillance and target

acquisition system (RISTA) that the Army is currently formulating.

The capstone manual, FM 100-5, Operations provides the basics for all the manuals mentioned in this paper. FM 100-5 discusses the battlefield operating systems and the battlefield framework which commanders and their staffs must use to plan and conduct operations.

The FM 100-5 states that "the brigade is identified as the first echelon of command capable of fighting deep."<sup>10</sup> This means the brigade is the first echelon of command capable of anticipating and concentrating combat power within the battlefield framework. The brigade must also become the first echelon where synchronization contributes to tactical success.<sup>11</sup>

The FM 100-15, Corps Operations, provides an overview of the use of the armored cavalry regiment and division in support of the corps mission. Corps operations are the highest level of tactical operations and border on operational levels of war. Many of the diagrams depict security and reconnaissance forces located to the front, flanks and rear of the corps, with brigades providing these important functions.<sup>12</sup> It is apparent that a brigade reconnaissance organization would greatly enhance the success of this mission.

At the division level, Field Manual 71-100, Division Operations, discusses the use of the brigade to achieve the

desired tactical results of the Division commander. Tactical success, for the division, begins at the brigade level. The brigade is the only ground maneuver element that does not own its own organic reconnaissance and security organization. In discussing the division formations, diagrams are used to show a security force to the front and rear of the main body.<sup>13</sup> These diagrams show the importance and necessity of these security forces to the success of the division (see Figure 1).

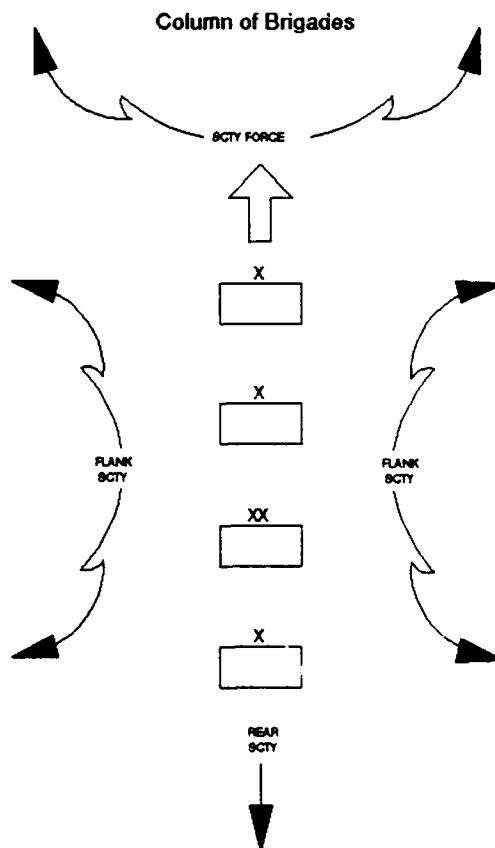


Fig. 1. FM 71-100, Division Column of Brigades.

In Figure 2, FM 71-100, illustrates another division formation requiring security assets to perform three hundred sixty degree security. The divisional cavalry squadron cannot perform these missions alone. A reconnaissance asset at the brigade level would meet the requirement shown in Figure 2 and could augment the cavalry squadron in this mission example.

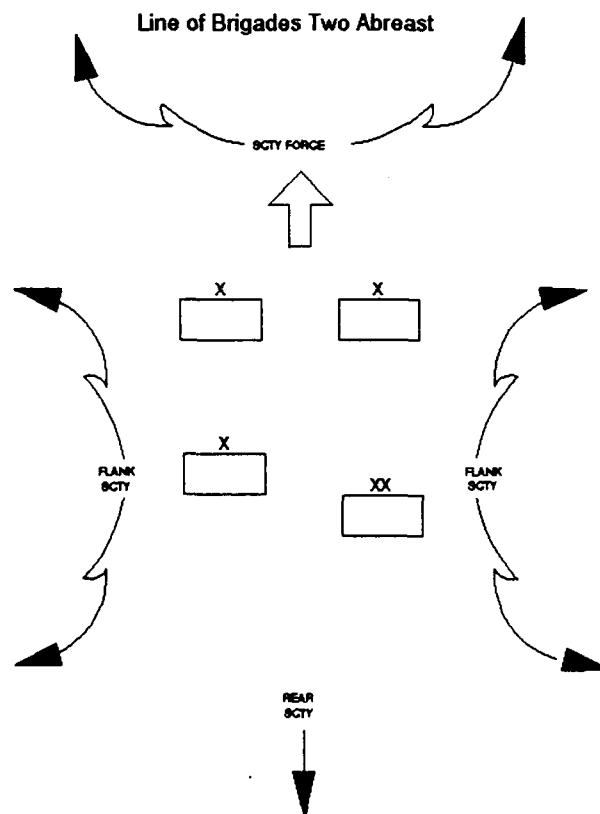


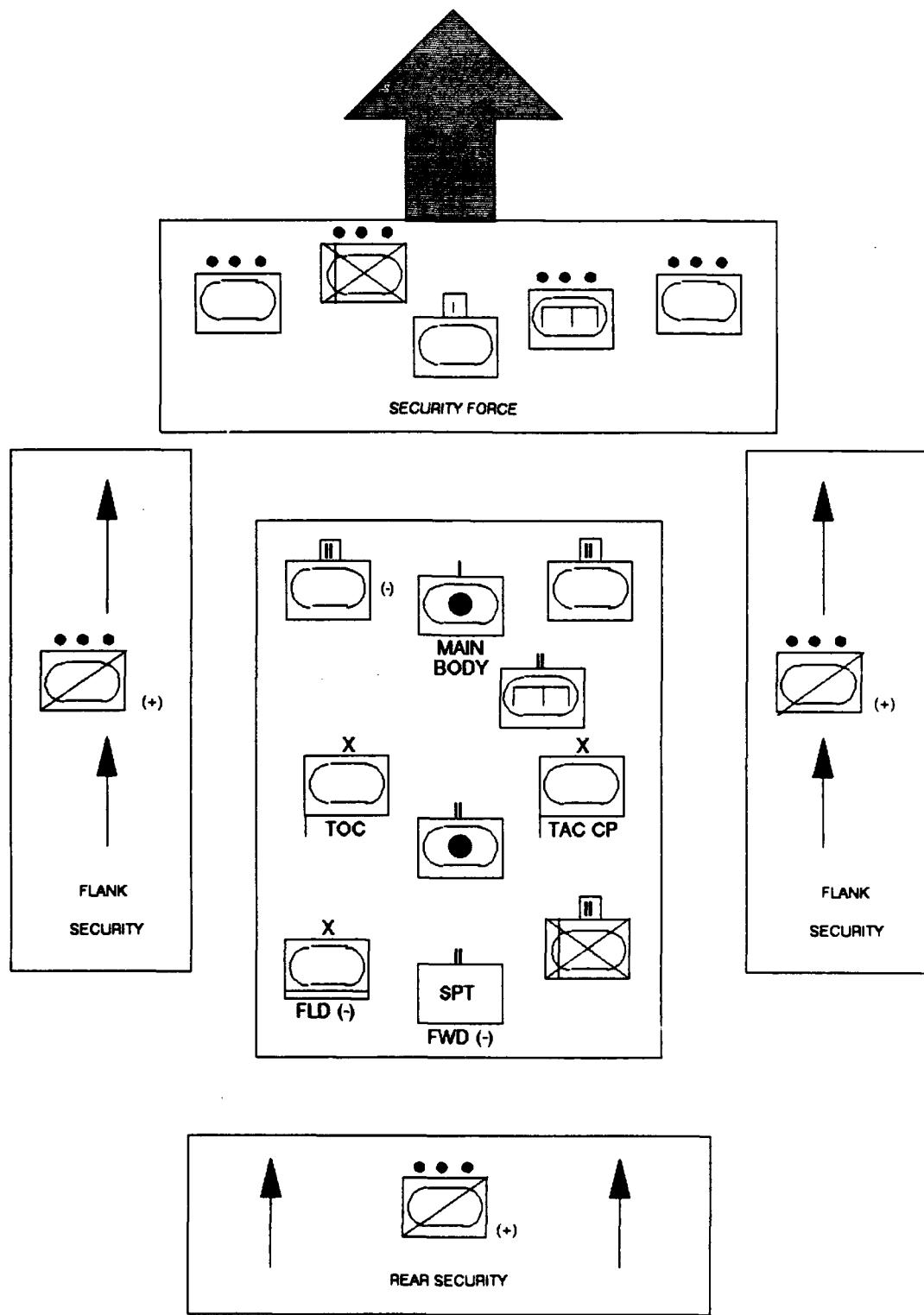
Fig. 2. Division Line of Brigades Two Abreast.

FM 71-100 highlights the importance of operations at the brigade level by stating that "a division's close operations include the simultaneous deep, close and rear operations of its subordinate brigades and battalions."<sup>14</sup> The brigade's execution of operations across the battlefield framework is the key to winning engagements and battles for the division.

Field Manual 71-3, Armored and Mechanized Infantry Brigade, written by Fort Knox, provides the most unusual approach to the need for an organic asset to perform reconnaissance and security at the brigade level. The manual repeatedly discusses the problems and needs of the brigade commander in the area of intelligence and information in fighting his brigade in all aspects of the battlefield framework. The FM 71-3 illustrates several situations where brigade missions, can use elements that are not organic to the brigade. One of these is to use all three battalion scout platoons conducting reconnaissance in advance of the brigade main body, or the use of company teams to pull security missions for the brigade. The approach is unusual because the manual states that the requirement for reconnaissance, security and surveillance does exist. However, no organic unit is assigned to perform this role. These solutions degrade the combat power of the brigade.

The FM 71-3 also addresses the heavy separate brigade organization which has its own reconnaissance troop. The reason that this brigade is so organized is because it can be employed separately. FM 71-3 indicates that forces must be allocated to perform reconnaissance and security roles. The FM 71-3, implies, with diagrams and examples, that subordinate units or division assets are the source of these reconnaissance units.<sup>15</sup> The problem is there are only so much of these assets to go around. The brigade solution has been to use internal assets for this mission. This is illustrated in Figures 3 thru 6 shown on the following pages.

Figure 3 shows the brigade in a movement with three-hundred sixty degree security. The advanced guard is made up of company/team assets from within the brigade. The three scout platoons (covering the flanks and rear of the brigade) belong to battalions assigned to the brigade. In figure 3, the brigade uses assets from internal sources for its security requirements. The FM 71-3 manual illustrates the brigade's need for security, and uses forces much larger than a platoon.



**Fig. 3. Brigade movement to contact formation.**

Figure 4, the brigade on line, illustrates a brigade need for security. The figure does not show where these assets come from, but with the limited frontage of the battalion scout platoon (three to five kilometers), it is evident that an organization larger than a platoon is required.

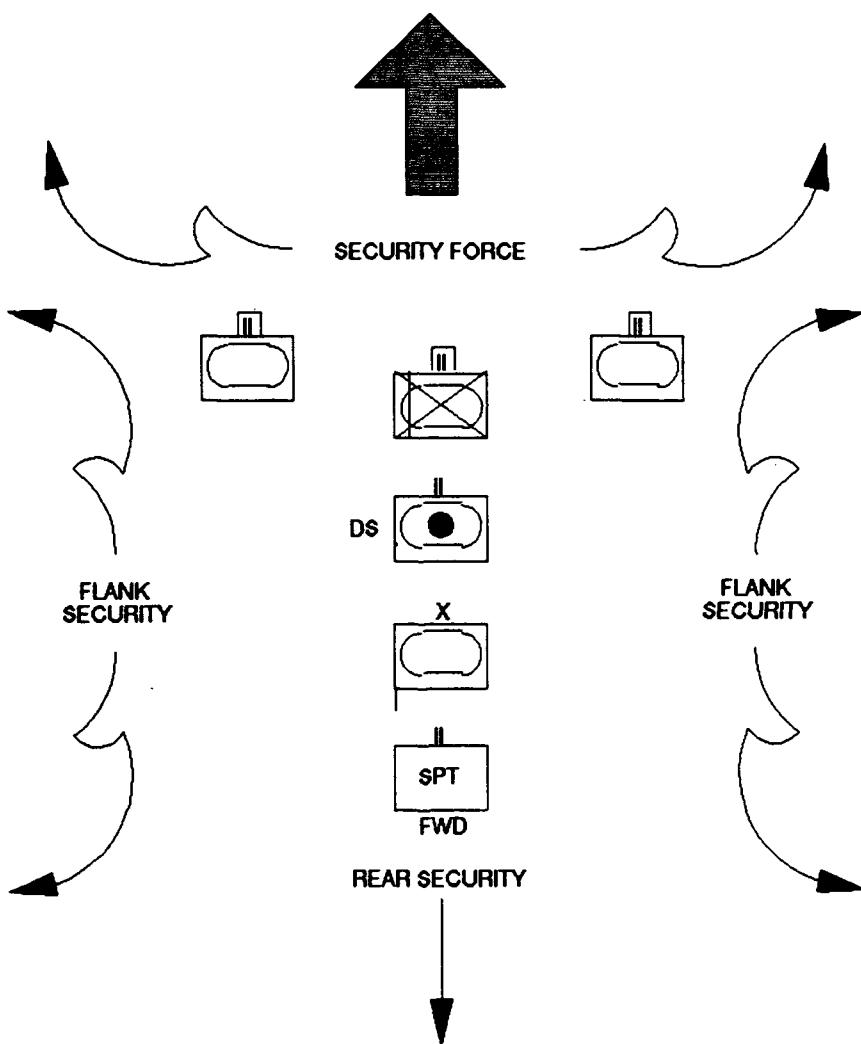


Fig. 4. Brigade on line.

Figure 5, shows the brigade in column formation with all around security. Figure 5 also does not depict where these security assets come from, only that they are needed.

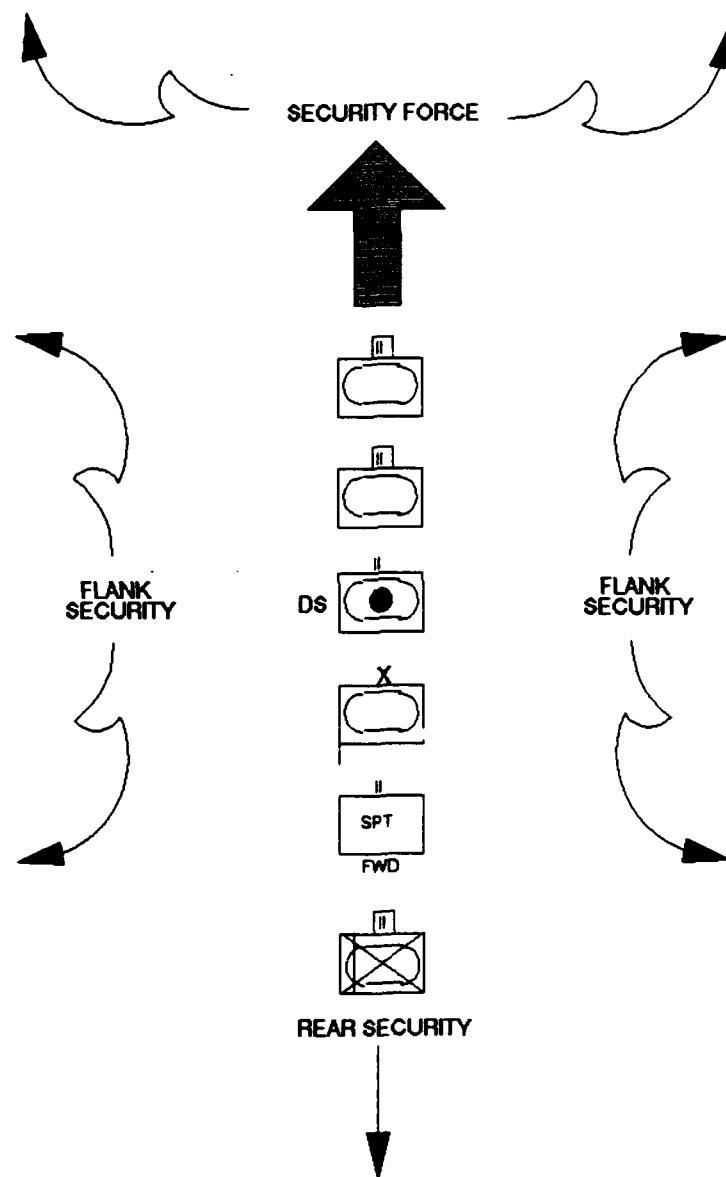


Fig. 5. Brigade in Column.

Figure 6, the brigade Vee, shows the brigade postured on a wider front and a reserve to provide depth to the organization. The doctrinal manuals continue to depict the need for security, unless the brigade commander takes combat power from internal assets, he cannot perform this function.

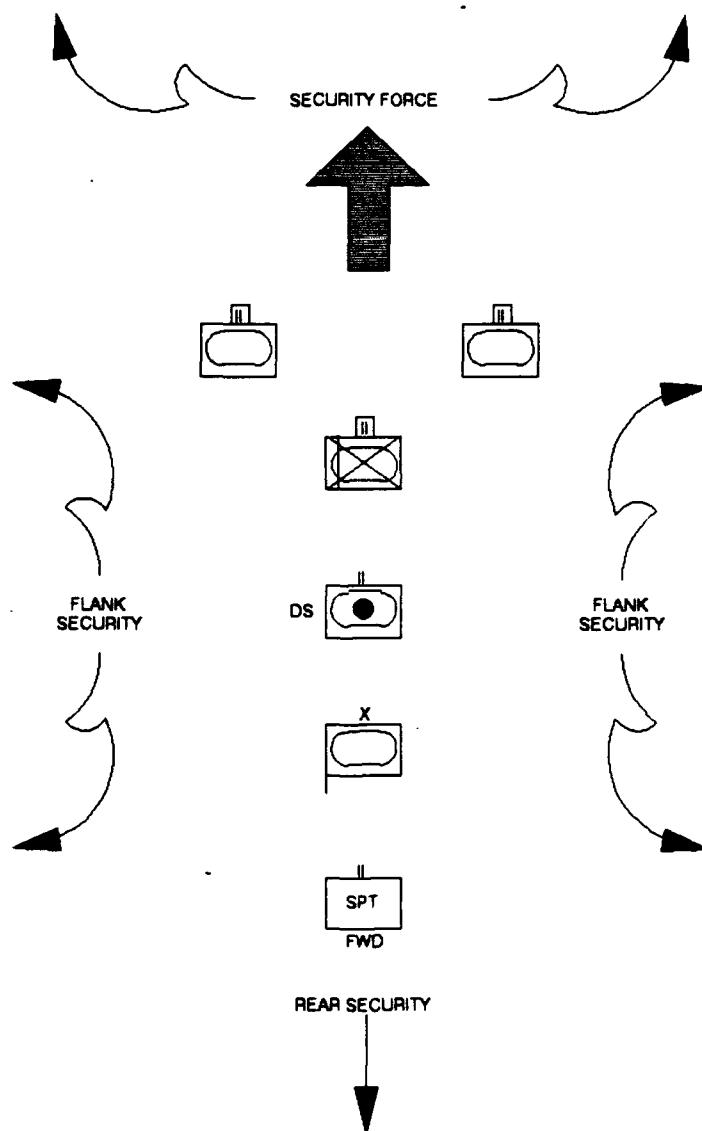


Fig. 6. Brigade vee formation.

The Long-Range Surveillance Unit Operations, FM 7-93, filled another gap in the reconnaissance/security layering effect. The FM 7-93 provided information on the organization of long range surveillance unit (LRSU) and long range surveillance detachment (LRSD) elements that were used in chapter five to make conclusions and recommendations for billpayers.<sup>16</sup>

The Military Police Support for the AirLand Battle, FM 19-1, NBC Operations, FM 3-100, and Fundamentals of NBC Operations, CGSOC Student Text 3-1, provide information on the MP, NBC and intelligence assets attached to the brigade to conduct combat operations. The organization mission requirements could be enhanced by a reconnaissance and security element organic to the brigade. This element could provide much needed assistance in performing its required missions as it is capable of performing its missions such as straggler control, NBC reconnaissance, Level II Threat and convoy escort.

TRADOC Regulation 11-15, Concept Based Requirements System (CBRS) and TRADOC pamphlet 11-9 Blueprint of the Battlefield displays how shortfalls are identified and prioritized by the General Officer Steering Committee for the Battlefield Development Plan (BDP). This information provided the foundation for the data analysis procedures. These publications also provide some of the groundwork for

mission area analysis, to determine the mission requirement and used in developing the matrixes used for analysis in this thesis.

The FM 100-2-1, The Soviet Army Operations and Tactics, clarified some misperceptions the U.S. Army Threat personnel had concerning tactics and organization of Soviet forces. The Soviets value their reconnaissance system because of its ability to provide the commander with the ability to align his forces and strike the weak points with mass and momentum. One advantage to support this system was the unlimited budget available. The reconnaissance elements the U. S. Threat personnel considered small [Divisional Reconnaissance, Regimental Reconnaissance and Combat Reconnaissance Patrol (CRP)] were often much larger than anticipated.

The FM 100-2-1 also introduced the Forward Detachment, an organization that had long been part of Soviet forces but had not considered by Threat Cells within the U.S. Army. This detachment was often confused and identified as the Advanced Guard Main Body.<sup>17</sup>

The pamphlet, Translations From Soviet Writings on Desert Warfare, provided U.S. Army Threat personnel the basis for studying Soviet reconnaissance tactics in the desert.

### Studies

The General Board, United States Forces, European Theater Study conducted two studies, number forty-eight and forty-nine entitled, Mechanized Cavalry Units. Each discussed the missions, doctrine and organization of reconnaissance units during WWII and proposed changes that needed to be made due to the nature of combat. The key items in the studies were summaries of the employment of reconnaissance units and examples of combat missions conducted by units in the war.

Ironically reconnaissance organizations spent a great deal of time conducting combat operations or in contact with enemy forces. These summaries provided much of the emphasis for the school of thought that reconnaissance organizations need to be capable of fighting for information, if necessary; most certainly for survival. The summaries concluded that an organization must fight for much of its information.

The General Board, United States Forces, European Theater; Organization, Equipment and Tactical Employment of the Armored Division, recommended that reconnaissance platoons should be retained in any postwar organization. These platoons should be equipped with wheeled vehicles and employed in the reconnaissance role.<sup>18</sup>

The board also found that pure reconnaissance missions were rare. Defensive missions were more common

for the cavalry group; normally the group was reinforced by a battalion of artillery, a battalion of tank destroyers, and an engineer company for the conduct of defensive, offensive, and security missions.<sup>19</sup>

The charts provided by Major Wolf in his study indicate that reconnaissance by the reconnaissance troop in the infantry division was only conducted six percent of the time. Security and special operations accounted for eighty-nine percent of the missions.<sup>20</sup>

The Division 86 Analytical Methodology, studied U.S. versus Soviet tank divisions in a European Scenario.<sup>21</sup> Division frontage was set at eighty kilometers by twenty kilometers and discussed the reconnaissance and security requirements for the division commander's fight. The study stated that the division commander should "see" enemy attacks, find the main attack, fight the first battle, plan and execute for the second battle, "attrit, mass and slow momentum" reconstitute, offense (in defense and offense) to remove enemy forces.<sup>22</sup> These tasks must be performed by reconnaissance assets assigned to the division for him to be successful.

Surveillance was to be used to "see deep", use all means to do something to slow and impede;<sup>23</sup> mobilize the force to maneuver to meet, fragment and destroy successful enemy thrusts; and support counter attacks. Surveillance redundancy is needed in critical nodes, but most impor-

tantly, the redundancy must let the commander "see the battlefield".<sup>24</sup> Technology has assisted the commander a great deal in this task with radar, aerial reconnaissance and space assets. But the brigade commander has no asset that is organic that can help him "see" on the battlefield the place he really needs to "see".

In order for the Division Commander to "see" the battlefield, his brigade commanders must be able to see the battlefield and anticipate what tactics and forces he needs to employ.

The Division Wargame and Analysis and Operational Concept Study, was conducted by units at Fort Hood.<sup>25</sup> Five U.S. test units or "T" series TO&Es were compared to four current "H" series U.S. battalions. The "T" series units were "H" series U.S. battalions with a cavalry troop assigned to the brigade. The battle was a computer based war game comparing the combat effectiveness of U.S. forces against a European Threat Division. An Armored Division and a restructured division were used as base units. The "T" series was not proven better than the "H" series battalion.<sup>26</sup> The results of the study may have provided the basis for the argument for a lack of an organization at brigade.

In the Division Restructuring Concept Report of the DA Staff/War College Review Group, suggested elimination of

the scout platoon from the maneuver battalion and the addition of a scout platoon at brigade level.<sup>27</sup>

The introduction of scouts at brigade level will give the brigade commander a useful but very limited reconnaissance and security capability. The elimination of scouts at maneuver battalion level reduces the size and complexity of the battalion.<sup>28</sup>

The Division Restructuring Study also recommended a brigade scout platoon for command and control purposes and not for the traditional reconnaissance and security roles. But even for the command and control missions recommended an eight vehicle platoon.<sup>29</sup>

The Battalion Scout Study provided a bottom up rather than a top down analysis. Table 1, illustrates the results of the study and provides a mix of organizations and a wide range of reconnaissance and security missions.

These missions are considered high frequency missions that would be conducted by these organizations.

TABLE 1  
Mission Accomplishment Comparative Analysis

Unit/ Equip	Frt Scrn	Def	Flk Scrn	Rte Rcn	Maint Cntct	Area Rcn	Rcn Town	Zone Rcn	Final Rank
<b>Base</b>									
6xM113	4	3	3	5	4	3	3	5	2
4xM220									
<b>Alt #1</b>									
6xM3	5	5	5	3	5	5	5	3	1
CFV									
<b>Alt #2</b>									
4xM113	3	3	3	3	3	4	4	2	4
2xITV									
<b>Alt #3</b>									
3xAACCV	4	4	4	3	4	4	4	3	2
3xITV									
<b>Alt #4</b>									
6xAACCV	2	1	2	3	3	4	3	2	5

**Missions:** Frontal Screen, Defend, Flank Screen, Route Recon, Maintain Contact, Area Recon, Reconnoiter a Town, and Zone Recon.

**Data elements:** 5 - Most complete mission accomplishment.  
 4 - Mission accomplished w/additional benefits.  
 3 - Mission accomplished.  
 2 - Mission mostly accomplished.  
 1 - Mission not accomplished.

This test mission profile does not adhere to the doctrine assigned to the element. The test appears to be skewed in favor of the best anti-armor fighting system, not the best scout system. This problem is accentuated because today's computer models are attrition based and optimized for direct fire combat.

The winner or preferred option generally will be the option with the largest number of most lethal vehicles.

The Division 86 Study identified the need for a brigade reconnaissance element and determined that a platoon was adequate. The platoon was deleted by the Army-of-Excellence cuts in 1984 to generate more slots for Military Police. Air-Land Operations designers considering this issue are proposing the addition of an organic scout platoon to the heavy maneuver brigade.<sup>30</sup> At this time the doctrine is in a conceptual phase of development.

The platoon's size is a problem, especially if the platoon is to operate on a long-term continuous basis. The platoon leader will have to rest crews and maintain vehicles. A platoon at brigade level will be inadequate to accomplish missions required by the brigade commander, for example, missions that provide the brigade commander with the intelligence/information needed to make sound decisions.

The brigade reconnaissance element would perform missions in support of the brigade commander on a front of approximately fifteen kilometers. The ten vehicle scout platoon (HMMWV) can only screen eight kilometers maximum on NTC terrain.<sup>31</sup> The two ground cavalry troops in the aviation brigade squadron can screen approximately ten to fifteen kilometers each, mission, equipment, terrain, troops and time dependent (METT-T).

The Army Of Excellence (AOE), VOL III redesigned the headquarters and headquarters company at brigade in the heavy division and subsequently removed the reconnaissance and security element.<sup>32</sup> The brigade scout platoon planned in the Division 86 Study was eliminated and the division Military Police Company assumed responsibility, within the brigade area, for convoy escort, security, straggler control, and EPW missions. The reconnaissance missions were to be accomplished by the maneuver battalions and the division's cavalry squadron.<sup>33</sup> The division cavalry squadron thus was reduced by one ground troop, and lost all thirty-six tanks. One large robust air troop was reduced to two smaller air troops.

The AOE study added the divisional Long-Range Surveillance Detachment, was deleted from the Division Cavalry Squadron and added to the Military Intelligence Battalion. The purpose of the detachment was to supplement intelligence and the collection and surveillance provided by the Military Intelligence Battalion. The Nuclear, Biological, Chemical (NBC) reconnaissance and motorcycle reconnaissance platoons were also eliminated from the cavalry squadron. The AOE study deleted many assets from the cavalry squadron but did not delete any of the missions the squadron personnel were expected to perform.

In October 1987, the Rand Corporation conducted a study of tactical reconnaissance at the National Training

Center. This study indicted that in the opinion of the vehicle crew members, the M-3 is inappropriate for scouts at the NTC and the M-2 with its interior configuration and space may be a better vehicle.

The issue may need further study, as the M-3 and M-2 are basically the same vehicle when comparing height, weight and capability. The M-2 has firing ports for the crew to fire from the inside of the vehicle. The turret for both vehicles is the same. The M-2 has the space to carry seven dismounts but very little ammunition. The M-3 is designed to carry two scouts and more ammunition.

The Rand study also found that the addition of wheeled vehicles to the scout platoon added a degree of stealth and provide additional platforms.<sup>34</sup> The HMMWV configured platoon requires enhanced thermal capability (UAS-11), MK-19 grenade launchers and .50 caliber weapon mixes on the vehicles.

The ten vehicle Scout Platoon Demonstration, in April 1988, was conducted by elements from the 194th Armored Brigade at the NTC. The unit used M-113s and M-901 ITVs and showed that the additional vehicles provided more personnel to conduct dismounted patrols and man OPs. A combination of wheeled and tracked vehicles seems to be the most flexible and complimentary organization.<sup>35</sup>

Later tests conducted by the Armor school included the use of two and four stroke motorcycles. These tests

determined the feasibility of using motorcycles in a reconnaissance role.<sup>36</sup> Many tactical units derived considerable reconnaissance information from their employment.<sup>37</sup> Colonel (Ret) Sidney Haszard commented, "that a man on a motorcycle is no less survivable than a basic infantryman."<sup>38</sup>

The Directorate of Combat Developments at Fort Knox conducted a Janus modeling of motorcycles in the Battalion Scout Platoon in January of 1988. The Janus modeling demonstrated that M-3 Bradley fighting vehicle survivability was greatly enhanced with the use of motorcycles and the momentum of reconnaissance is thirty percent faster.<sup>39</sup> During limited visibility at the NTC, motorcycle operators had a difficult time with depth perception using PVS-7 night vision goggles.

In May 1988, the Combined Arms Combat Developments (CACDA) Activity tasked the U.S. Army Armor School (USAARMS) to:

- \*Recommend the mix of Cavalry/Scout organizations at Corps, Division, Brigade and Battalion
- \*Determine what missions must be performed by Cavalry/Scouts at each echelon
- \*Determine the resource impacts of the recommended mix by component
- \*Determine the deployability impacts for recommended Light Division designs (LID, ABN)
- \*Solicit comments from current division/corps commanders
- \*Coordinate ground/air mix with Aviation Center
- \*Coordinate with the Intelligence School for input on surveillance and force structure<sup>40</sup>

The rational for the CACDA directive was based on a perceived need for additional reconnaissance and security capability by taking into account AirLand Battle doctrine, technology, increased battle tempo, and Threat doctrine.<sup>41</sup> The value of this study was that it focused on organic reconnaissance and security requirements across the tactical echelons of command from battalion through corps. It also provided a basis for recommending solutions to reconnaissance and security deficiencies in doctrine, training, organization and material.

The U.S. Army Armor School (USAARMS) responded with a study entitled The Cavalry/Reconnaissance Net Assessment - Master Plan, which placed the divisional ground maneuver brigade in its doctrinal setting. Study analysis determined that the brigade was deficient in all areas of reconnaissance and security operations.<sup>42</sup> The study analyzed the unit's organic ability to conduct all three of the reconnaissances missions and its ability to screen.<sup>43</sup> The analysis was conducted using Janus modeling for battalion scouts.

The study did not establish the need for the brigade organization as its highest priority, but focused on corrections at the battalion and the divisional cavalry squadron. The Cavalry/Reconnaissance Net Assessment - Master Plan recommended a troop sized element for the

brigade due to the width, depth, and time factors relevant to the brigade commander's mission.<sup>44</sup>

Fort Knox proposed a troop and suggested that a ten vehicle platoon could be used to cover the assigned sector and allow for a smooth transition to the troop level organization.<sup>45</sup> This comment was caveated with the statement, "if the troop is required and becomes affordable."<sup>46</sup> This comment suggests that an organization requirement does exist, but that the size of the organization was in question.

However, the study did reinforce reported unit deficiencies noted at the NTC by the Rosenberger Study.

The brigade commander needs an organic reconnaissance and security element. The element designed will be required to operate on a scale created by the size of the brigade sector. Division 86 force structure originally identified a need for a brigade reconnaissance platoon AOE cuts in 1984 deleted the platoon. This deficiency is consistently demonstrated at the NTC.<sup>47</sup>

The study by Major Rosenberger for the Armor Center concerning reconnaissance and counter-reconnaissance at the NTC provided an in-depth look at the problem from the NTC perspective -- a high stress, target rich environment. The study recommended reconnaissance assets be added to the brigade and a change to task force platoon to include four more vehicles.

The Rosenberger study team wrote:

The scout platoon alone, even equipped with M-3s, is not capable of accomplishing all the tasks associated with a screen mission forward of the task force. A mixed force consisting of the scouts platoon, GSR, and a mechanized heavy company team, seems to work best at the NTC.<sup>48</sup>

If the preface that this statement is correct, it is difficult to determine that a platoon sized element is the correct organization for the brigade. Mixed forces should be task organized and trained prior to the mission to maximize the performance of the mission and minimize the confusion created when forces have not habitually worked together.

These mixed forces, tied in to an active fire support officer (FSO) supporting the screening force, are the first users of indirect fire support. Employed correctly by the scouts, accurate placement of artillery can quickly strip the initiative away from the attacking enemy force.

The Rosenberger study reinforced the idea that the ground maneuver brigade needs an organic reconnaissance and security element even though it failed to designate a high priority for a brigade reconnaissance organization. Proposals for force structure solutions which include current force structure alternatives were made for each level of command. The study did not focus on whether brigade doctrine needed revision.

It is evident that the subject of doctrine has come into controversial prominence since the implementation of Army of Excellence (AOE) force structure cuts. Various opinions exist on what a reconnaissance organization should do for the brigade as an entity unto itself. The specific mission requirements for a brigade reconnaissance/security organization generally coincide with current doctrinal publications.

In August 1988, TRADOC directed the U.S. Army Combined Arms Center (CAC) to conduct a reconnaissance, surveillance, and counter-reconnaissance assessment. CAC was directed to:

Review and assess the tactical intelligence battlefield operating system to include brigade and battalion task force capability to conduct reconnaissance and surveillance operations.

Review and assess brigade and battalion task force capability to perform counter-reconnaissance.

Identify conceptual alternatives for improvements to brigade and battalion task force capabilities to conduct reconnaissance and surveillance operations.

Improve brigade and battalion task force capabilities to perform counter-reconnaissance.<sup>49</sup>

A General Officer Executive Committee (GOEC) was organized to address this tasking and defined the problem to be:

Observations at the CTCs and comments by field commanders throughout the Army indicate an inability of our battalions and brigades to routinely conduct adequate reconnaissance of the battlefield; provide adequate force security; and defeat enemy reconnaissance forces.

Our battalion and brigade maneuver forces are not winning the reconnaissance/security battle.<sup>50</sup>

The GOEC considered two major constraints in developing alternative solutions. Solutions would not result in the significant redesign of the cavalry, aviation, chemical, or combat electronic warfare and intelligence organizations. Solutions had to remain consistent with current divisional end-strength levels.<sup>51</sup>

The GOEC began the assessment by reviewing current brigade and battalion doctrine and noted that doctrine identified the necessity to perform both reconnaissance and counter-reconnaissance. The committee also noted that doctrine did not address what specific organization within the brigade should perform these functions.

The GOEC results indicated that force structure changes were needed at both the battalion and the brigade. The battalion organization fix was a ten vehicle scout platoon which had previously been approved by the Chief of Staff of the Army. The GOEC indicated that if the heavy division brigade were to have an effective scout organization, it should probably be a troop or company size organization.<sup>52</sup> However, the application of self imposed

constraints discussed above, determines that such an organization cannot be achieved.

The most economical solution for fixing the problem at brigade level would be the addition of technology such as the addition of a platoon of unmanned aerial vehicles to the heavy brigade force structure.<sup>53</sup> This solution is within the constraints established by TRADOC but only addresses surveillance and portions of the reconnaissance problem. It does nothing to resolve the counter-reconnaissance issue. The cost of the aerial vehicle may be prohibitive to this solution.

The UAVs will give the commander realtime information but not provide continual surveillance (vehicles have a allotted on station time, and must be refueled), and they cannot distinguish between decoys and actual targets. The main disadvantage is that they cannot laser designate or call for artillery fires to be placed on the target.

The Battalion Scout Platoon Concept and Evaluation Plan was a joint effort conducted at Fort Knox to study the effectiveness of using the ten vehicle scout platoon in armor and infantry battalions.<sup>54</sup> The Directorate of Combat Developments, TEXCOM, and the Command and Staff Department were tasked to train, equip and organize two scout platoons at Ft. Stewart. This tasking was generated by a General Officer Executive Committee (GOEC) in 1988.

The culmination, of the concept and evaluation plan, was a National Training Center rotation involving both platoons, and was designed to confirm the feasibility of such an organization.

The armor task force platoon had ten High Mobility Multi-purpose Wheeled Vehicles (HMMWV) and four motorcycles (MILMO) for its thirty man element. The infantry task force was organized with six HMMWVs, four MILMOs and four M-3 Bradley fighting vehicles. The test results indicated that the ten vehicle scout platoon performed better than the current six vehicle platoon.<sup>55</sup>

TRADOC's zero growth constraint was detrimental to both ten vehicle organizations and it is not likely to change in the near future. Zero growth was a constraint that TRADOC placed on branches of the Army to control personnel. If, for example, Infantry branch wants to assign more personnel to platoons, the Infantry branch would be required to take away the same number of personnel from another element, for example, its mortars. Branches had to give up an element of equal number in order to get what it needs with the same amount of personnel.

The ten vehicle platoons need more personnel, especially when dismounted operations, such as observation posts and MILMO scouts, were considered. The Table of Organization and Equipment (TO&E) for the ten vehicle platoon was approved by General Vuono before he

retired.<sup>56</sup> The change to this battalion organization is not addressed by studies considering adding a platoon to the brigade. The size of the brigade element has not been fully considered especially in light of the fact that the Army is having a difficult time equipping all battalion scout platoons with HMMWVs and night sights.<sup>57</sup>

The 1989 Battalion Scout Platoon Study assessed reconnaissance from corps to battalion level and focused on the scout platoon mission at each echelon level. These missions became more aggressive and displayed a correlation, between stealth and the parent organizations protection level. The higher the protection level of the parent organization, the less stealth required of the scout platoon. Scout platoons, mounted in HMMWVs, in the battalion are much more stealthy than scout platoons in the armored cavalry regiment (ACR). The massive firepower that troops and squadrons can bring to bear in the regiment are needed because of the regiments heavy fight requirements.

The Branch Operational Concept signed by Major General Thomas Foley, the Chief of Armor, explained the Armor Centers vision for combined Arms team in twenty-first century battle.

The purpose of the concept is to serve as a focal point for the Total Army Force's evolution to the future. It describes future armor operations as part of the combined arms team in support of the Army's forward presence, contingency and reinforcing forces. The concept proposes potential Armor organizations and equipment that address new battlefield requirements.<sup>58</sup>

....the Armor Center conducted a detailed assessment of the Total Armor Force capability to execute the concept. As a result of this assessment, a list was developed of potential Armor Force deficiencies and force shortfalls with proposed corrective actions.<sup>59</sup>

There are some serious concerns with this document. It assumes that new systems will be developed and purchased such as the future main battle tank, future scout vehicle (FSV), Non-line of Sight (NLOS) anti-armor system, the Armored Gun System (AGS). One must question this assumption when the Secretary of Defense has cancelled one hundred programs to date. Much needed systems such as the light helicopter experimental (LHX) will be developed but not procured. It will take a considerable amount of time to begin production of these systems should hostilities break out.

Another concern is a major change to the Armored Cavalry Regiment with the addition of a Reconnaissance Squadron mounted in the same FSV. The Regiment needs a greater dismount capability, but is not a priority "fix".

The Branch Operational Concept indicates that a scout platoon in the future will be organic to armor and

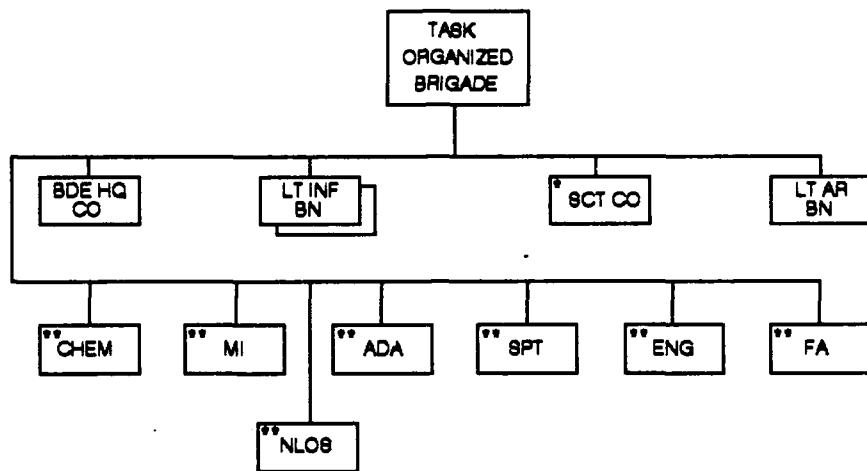
mechanized brigades/battalions. (See Fig. 7.) This study has confusing data on brigade organizations. Figure 7 shows a self contained task organized brigade with a scout company formed from scout platoons from non-deployed brigades and battalions. This is not a good solution because it mixes units that have not worked together, may have different standard operating procedures and may not effectively gel.

The second figure (Fig. 8.) organization uses the single platoon assigned to the Headquarters, Headquarters Company (HHC) in the brigade. These proposals guide the armor force away from any standardization in organizations.

There is, however, no indication of how these proposed organization were determined, but the study does have a brigade platoon organic to the organization.<sup>60</sup> The brigade commander will have his own asset<sup>61</sup> which would include a platoon equipped with six future scout vehicles and military motorcycles.<sup>62</sup> (See Fig. 9.)

It is evident that the Armor Center determined that the brigade does need its own organic reconnaissance and security asset. The one unusual aspect this study determined that a scout platoon was adequate for the battalion and the brigade. The doctrinal requirements and missions for the brigade and the battalion are so different, that this solution requires much more analysis.

### TYPE SELF-CONTAINED TASK ORGANIZED BRIGADE

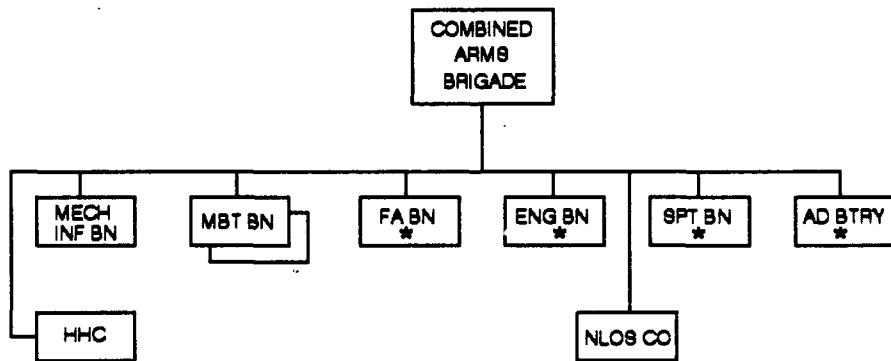


\* FORMED FROM NON-DEPLOYED BDES/BNS SCOUT PLATOONS

\*\* SIZE DEPENDENT ON METT-T

Fig. 7. Armor 2000, Task Organized Brigade.

### TYPE SELF-CONTAINED COMBINED ARMS BRIGADE



\* DIV CDR ESTABLISHES SUPPORT UNIT  
RELATIONSHIPS: DS TO ATTACHED

Fig. 8. Armor 2000, Combined Arms Brigade

ARMOR/MECHANIZED BRIGADE/BATTALION AND  
LIGHT ARMOR BATTALION

SCOUT PLATOON

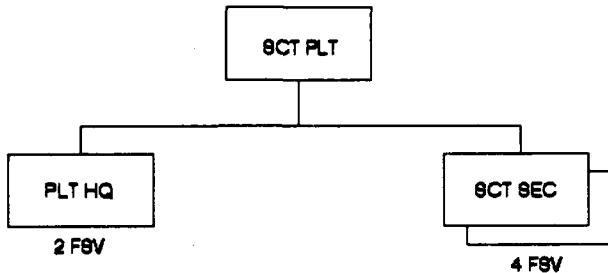


Fig. 9. Armor 2000 Brigade/Battalion Scout Platoon.

The Scout Platoon Concept and Evaluation Plan (CEP) proved that eight-ten platforms was much more effective than six platforms. It also proved that the six vehicle platoon was inadequate for the battalion. If this statement is correct, how can a platoon be adequate for both the brigade and battalion scout platoons?

This study raises other issues that should be addressed. The future scout vehicle (FSV) will integrate signature reduction and advanced sensor technologies in a lightweight, reconfigurable platform capable of performing reconnaissance or security missions throughout the battlefield. FSV's configured for reconnaissance missions will typically be found in reconnaissance squadrons and incorporate remotely employed and/or manned sensor packages and extended range communications systems that will enable continuous long range all-weather surveillance and target acquisition for the force.

When linked via FSV's vehicle control operating system (VCOS) and intervehicular information system (IVIS) subsystems to the maneuver commander's command and control system, the reconnaissance FSV's long range observation capabilities will enable the scouts to assist in the distribution of all indirect fire systems supporting the force. The FSVs in scout and cavalry organizations will often be required to conduct support security operations. These FSVs will usually mount a medium caliber weapon (gun or missile capable of defeating Threat light armored vehicles). Regardless of its missions configuration, the FSV will include an advanced VETRONICS architecture, and improved NBC protection system that enables stand-off NBC threat detection and an NBC overpressure system, a means of regulating the vehicle's internal environment, and a self-defense weapon.

The digital message device will also be used in the scout platoon.<sup>63</sup> This device was also tested on the CEP and proven not very effective. The device took too long to train on, was difficult to interface with the radio nets, and took too long to enter a message into the system. Unless this device is seriously upgraded to the point that a spot report or logistics report can be sent with very few key strokes than the device is worthless to a scout. A scout must have a quick reliable means to communicate information to the commander.

The FSV is suppose to be smaller and more stealthly than the Bradley. During the Scout Platoon CEP a motorcycle could not fit inside the vehicle and still allow the scouts to exit the vehicle safely. Where will the motorcycles be mounted since the organization for the brigade platoon has no separate motorcycle platoon? How will the motorcycles be moved to maintenance collection points for repair? These questions require further study.

The study depicted several brigade organizations. The Combined Arms Brigade would have a scout platoon organic to the Infantry Battalion, but the separate Task Organized Brigade would have a scout company.<sup>64</sup>

Normally, brigades will contain three maneuver battalions, but will be expandable to accommodate four to five maneuver battalions. Brigades and maneuver battalions will be tasked organized as required by the factors of METT-T as applied to specific phases of the battle. At times, an armored brigade may be reinforced with light elements such as scouts and light armor. However, as a general rule, a task organized light brigade tailored for rapid deployment during the initial phase of a contingency operation will seldom contain armored elements such as main battle tanks.<sup>65</sup>

The study does not seem to take into consideration current budget and strength trends. There is no mention of billpayers in the study and it appears to contradict the Cavalry Net Assessment conducted in 1988.

In October of 1991, Brigadier General Clark, TRADOC Chief of Staff for Force Development, sent a tasker to CAC

Force Development stating that General Franks, the TRADOC Commander, wanted a study done to get brigade scouts as soon as possible. CAC will begin this task in 1992.

#### White Papers

Two White Papers published by Fort Knox, Armor 2000 A Balanced Force for the Army of the Future and Branch Operational Concept for the Total Armor Force as Part of The AirLand Operations Combined Arms Team in Twenty-first Century Battle provided insight for future warfighting doctrine, force structure, capabilities and future leader training for the armor force. Armor 2000 covered new technology and enhanced systems for armor and scout soldiers to perform their duties more effectively.<sup>66</sup>

The Branch Operational Concept addresses future force considerations and openly addresses brigade level scout platoons which fight only in self defense. This is the strongest language Fort Knox has used to address the need since the Cavalry Net Assessment - Master Plan. The concept paper does not advocate a particular type of platoon, but does indicate that the battalion scout platoon should be mounted in the future scout vehicle and on the military motorcycle (MILMO). Current budget constraints may have a negative impact on this proposal.

Major Craig Harju's White Paper, A Study of the Maneuver Battalion Reconnaissance or Scout Platoon,

discusses the history of the platoon and the changes from 1942 to the present. This is a detailed look at the platoon organization and focuses on changes made to the table of organization and equipment (TO&E). Major Harju is critical of the process that the Army followed during that time period.

Major Harju contends that there have been consistent problems relating to the scout platoon. There has been no front-end analysis of the reconnaissance platoon's role relative to its parent organization. Reconnaissance platoon tables of organization and equipment have been based on expediency. Finally, the maneuver battalion scout platoon has been misused by commanders and staffs for generations.<sup>67</sup>

Currently there is no organic reconnaissance asset in the heavy division brigade. An organization does exist in the separate heavy brigade and trends at the NTC indicate that such an organization is, in fact, needed in every brigade.<sup>68</sup>

Lessons from our combat training centers have shown a strong correlation between successful reconnaissance and security and overall tactical success. This correlation is hardly surprising, for surprise and security have been proven historically and are included as principles of war by all armies.<sup>69</sup>

One conclusion drawn as a weakness of the NTC is that not all of the division assets such as the divisional

cavalry squadron, and long range reconnaissance detachment are used. The brigade would rarely be deployed without these assets in future wars.

The heavy maneuver and light infantry brigades are the only combat maneuver organizations from corps to battalion that do not have their own organic reconnaissance and security assets. The brigade is required to task subordinate units to supply internal assets to fill this role. This tasking degrades the combat power available within the brigade.

In June 1988, the U.S. Army Armor School produced a White Paper, entitled Brigade Scouts. The study made an effort to identify a need for scouts at the divisional ground maneuver brigade level. Following the explanation of the need, was a summation of mission requirements and a brigade scout organization proposal. Reconnaissance and security mission requirements were generally in line with those identified during the doctrine review.<sup>70</sup>

This White Paper did highlight a Threat doctrinal aspect enhancing the paramount importance of screening requirements within the brigade. Soviet doctrine placed a great deal of emphasis on mass, momentum, and pressure on the defender. For a successful defense, the brigade needs to be able to disrupt the Threat timetable of attack. This

means that the brigade must be capable of winning the reconnaissance/counter-reconnaissance battle.<sup>71</sup>

#### Monographs

Master of Military Arts and Science (MMAS) and School for Advanced Military Studies (SAMS) monographs provided much of the material for in-depth study and general questions to be answered by this thesis.

Major James F. Wolf's SAMS monograph, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?, deals with an analysis of the layering effect of reconnaissance and recommends a scout platoon at the brigade level. Doctrinal requirements for the unit are several years ahead of the Army's application of that doctrine. Major Wolf analyzes missions conducted by reconnaissance units during World War II and asserts that most missions were related to combat actions rather than to reconnaissance roles. Units adjusted to the combat requirements and performed their missions with great success. The data indicating that reconnaissance units need to be robust to fight for information when necessary.<sup>72</sup>

The SAMS monograph, Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective?, by Major Terry A. Wolf examines why U.S. Army task force scout

platoons are not conducting their primary roles effectively, and suggests that a company is required at the battalion level.<sup>73</sup> This paper comprehensively outlines the platoon's deficiencies and openly questions how the platoon can be adequate for the brigade when it is ineffective for the battalion. His suggestion of increasing the platoon size for every battalion in the Army may not be feasible with the current decreasing personnel trends in the Army.

Major Kindsvatter's SAMS paper, The Army-of-Excellence Divisional Cavalry Squadron--A Doctrinal Step Backward?, identifies the problem which a brigade commander faces because the divisional squadron, as organized, is not adequate to perform its mission profile. This lack of organizational assets at the division exacerbates the problems with the layering of reconnaissance assets on the battlefield.

This layering effect is shown in figure 10. The layering effect shows the echelon of command and the reconnaissance/security units that report to that echelon. Figure 10 clearly shows that each layer or echelon of command has a complimentary unit assigned except for the brigade. This identified the point at which the layering effect had a gap.

## RECONNAISSANCE LAYERING EFFECT

## BATTLEFIELD LAYERING EFFECT

<u>ECHELON OF COMMAND</u>	<u>RECONNAISSANCE UNIT</u>
CORPS	LONG RANGE SURVEILLANCE UNIT ARMORED CAVALRY REGIMENT
DIVISION	LONG RANGE SURVEILLANCE DETACHMENT DIVISION CAVALRY SQUADRON
BRIGADE	-----
BATTALION	SCOUT PLATOON

Fig. 10. Reconnaissance/security layering of the battlefield.

Major Griswold's SAMS monogram, Counter-reconnaissance Operations of the Heavy Battalion Task Force on the AirLand Battlefield, studies the question of stealth versus fight, for intelligence. His in-depth study of Soviet reconnaissance and NTC observations related to the Soviet operations were discussed in this paper.<sup>74</sup>

In Reconn-Pull, Seeking the Path of Least Resistance, a SAMS monograph by Major Kienle discusses the lack of an asset at brigade level. This lack of an

organization hampers the commander's ability to use the Reconn-Pull technique.<sup>75</sup>

Major Wolf in his SAMS monogram, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? wrote:

The most glaring deficiency for ground reconnaissance capability within the heavy corps is the lack of any organic ground reconnaissance organization at the brigade level. Such an organization would seem to be required both by the missions a brigade receives, and the size of a sector or zone in which a brigade may operate.<sup>76</sup>

The role of scouts at the brigade level should be no different than any other scout. Major Wolf wrote that the scout organization no longer has a multi-combat mission, but should be used primarily for reconnaissance and command and control. He supported the idea that a brigade commander needs verification of information provided by the division, detailed information for planning, and near real-time information on enemy movements. Reconnaissance organizations at this level can provide this without a capability for multi-role combat.<sup>77</sup>

It can be determined from the monographs discussed above that the size of the area in which the brigade operates also supports the requirement for an organic reconnaissance organization. The area of interest for the brigade commander may extend past those of its

subordinate battalions, creating a gap in reconnaissance coverage.<sup>78</sup> The priority intelligence requirements (PIRs) of the brigade may be such that the division will be unable to assist in providing coverage. For both of these reasons, an organic reconnaissance capability would seem to be appropriate at the brigade level.

The scout platoon also suffers from several shortcomings when compared to mission requirements: the small size of the platoon, the lack of sufficient dismounted reconnaissance capability, and the deficiencies in the relative mobility of the platoon when compared to the task force.

There are several schools of thought on the subject of brigade scouts. One school argues that, for the missions the unit can expect to encounter, the size of the organization requires something larger than a platoon. A second school of thought is that the unit should be robust enough to fight for information if necessary; therefore tanks should be added to the organization no matter what the size and suggests that the unit be company size. A third school of thought states that stealth is all important with this organization, therefore it should be as small as a platoon. It is evident from the literature, that in order to have an organization at the brigade level which includes some variant of strong mobile anti-armor

capability (M-1 or AGS [Armor Gun System]), stealth is required for the other elements of the organization.

The reconnaissance/security organization would need to be able to fight, when necessary, to support the brigade commander's intent. It is important to remember that screen and guard are a matter of protection level and often in the reconnaissance role, units often run into security elements which have a tendency to want to fight.

Major Wolf states that reconnaissance, security and surveillance missions are either specified or implied many times in the brigade field manuals. Examples and illustrations reference subordinate units or division as the source of reconnaissance and security assets to support identified missions. Major Wolf contradicts himself in his discussion of the role of reconnaissance soldiers at the brigade level. He states that, "the brigade roles should be no different than those at corps and division...the requirement for a parent organization with a multi-combat mission capability may no longer apply."<sup>79</sup> However, battalion roles not only change, but the method of training has to be tailored to mission needs.<sup>80</sup>

The brigade commander needs verification of information for planning, and near real-time information on enemy movements. This can be done with a reconnaissance and security layering effect (discussed earlier) if the

brigade has its own organic assets to conduct these two roles.

The layering effect exists on the battlefield from each echelon of command except the brigade. The layering effect assists in the passing of information from the farthest asset forward to the main battle area. The brigade can only monitor division because it has no asset to pass information. The battalion scout platoon passes information to the battalion headquarters. This layering effect is interrupted at the brigade level because of the lack of an asset.

Major Wolf provided two solutions to the brigade reconnaissance problem. The first was to provide an organic reconnaissance element at brigade level, which would not fill a multi-combat role. He stated the element should be a platoon of ten to twelve vehicles. The solution recommended may cause command and control problems. Having twelve vehicles on one net trying to send in a spot report to the platoon leader at the same time is realistic.

Major Wolf's second solution was to establish an element at division level which would provide reconnaissance support for brigades, as necessary. This solution was not dealt with in detail.

Major Wolf's conclusion is that the brigade needs its own reconnaissance capability. The advantages

primarily centered around responsiveness and the ability to optimize the reconnaissance organization in light of mission requirements. The disadvantages included the increase in end strength requirements, equipment overhead, and training requirements.

Maj. Guy Swan's SAMS monograph, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough? addressed the issue of a lack of organic reconnaissance and security assets in the brigade and concluded that the HMMWV platoon would be a solution.<sup>81</sup> The mission profile is not addressed in this paper and, thus it does not address mission shortfalls. Major Swan's paper also does not address key questions such as the source of the additional personnel and vehicles, and the roles to be assigned to the platoon.

#### Articles and Periodicals

Most authors in Military Review, mentioned the reconnaissance organization (platoon sized) and did not elaborate on the important element of size, but focused on other aspects of the brigade organization.

Opinions expressed in, "Screen, Cover, Guard ! What's the difference?" published in Military Review, provided thoughts on the dilemma faced by commanders who do not know the principles and requirements for security missions.<sup>82</sup>

LTC James B. Hollis attempts to explain the difference between the three security missions that cavalry organizations must conduct. He, like most commanders, is confused between the guard and the cover mission. The cover is the mission that provides the main body the most protection. The guard mission is similar, but is conducted within range of the main body artillery. A covering force must be a self contained unit with combat support (CS) and combat service support (CSS) assets assigned to it. This is not a difficult concept to understand, but it is important that every commander understand it before he assigns the mission to his units.

Brigadier General "Doc" Bahnsen, Jr., while Chief of Staff of III U.S. Corps, wrote "The Kaleidoscopic US Army" which appeared in Armed Forces Journal.<sup>83</sup> This article is a realistic approach to the problem of Army doctrine out pacing the organizational needs of the Army. This article contained some viable alternatives for making divisions more robust. General Bahnsen stated that the Army must develop the equipment first and develop the doctrine to support the equipment.

U.S. News and World Report, January 20, 1992, contained an article about two units fighting the Tawakalna Division of the Republican Guards. One unit was a Divisional Cavalry Troop with the M-3 Bradley. The other unit was an Armored Cavalry Regiment (ACR) Troop with

M-1A1s and M-3s. The article describes the fight that these two units engaged in at the 73 Easting in Kuwait.<sup>84</sup> The unit without tanks was hit hard losing five of thirteen Bradley vehicles. The ACR troop lost no vehicles while its tanks destroyed twenty-two Iraqi tanks. During this battle, divisional cavalry was not able to defend themselves. Yet they were given a mission which required a robust organization. To assist in the brigade mission, it is important for the divisional cavalry squadron to have its own tanks.

The Army Times provided information on current procurement items being slashed due to budget constraints.<sup>85</sup> (This information provided the basic organizational requirement recommendations in chapter four). One item mentioned as effected was the Line-of-Sight Anti-Tank (LOSAT) missile which was delayed another two years with fielding decisions to be made in 1996. The LOSAT was developed to replace the Improved Tow Vehicle (ITV). The ITVs had been removed from the infantry battalions in Germany to fill the dismount strength on M-2 vehicles.<sup>86</sup>

In his Army Magazine article, General Foss provides an organizational chart which includes a brigade structure containing an organic reconnaissance platoon.<sup>87</sup> This platoon is a shortfall clearly documented in several NTC After Action Reports to the III Corps Commander requesting

a troop size organization. The organizational chart also depicts an unmanned aerial vehicle (UAV) element currently is assigned to the Aerial Exploitation Battalion in the Military Intelligence Brigade. General Foss explains how future sensor systems are vulnerable to sensor failure and deception efforts by the enemy.<sup>88</sup> He states, "therefore we needed a reconnaissance and security screen to hedge against such failure."<sup>89</sup> He also highlighted the need for units with more mobility and agility and ability to generate combat power quickly. General Foss's article explains the needs for the capability of the unit but does not explain where these additional forces should come from. Robust units are very costly in both personnel and equipment and with the zero growth constraint are difficult to attain.

Various article in Infantry magazine delineate the need for reconnaissance and security operations. The conduct of continuous reconnaissance and security actions is found to directly correlate with the overall tactical success of the parent organization.

Major General Kenneth C. Leuer, serving as the Chief of Infantry, wrote, "Commandant's Note: Reconnaissance and Security", that lessons from the combat centers have shown the strong correlation between successful reconnaissance and security and overall tactical success.

"This correlation is not surprising, for surprise and security," he wrote, "have been proven historically and are included in the principles of war by all armies.<sup>90</sup>

Because of the importance of reconnaissance and security operations, commanders must avoid assigning more missions and tasks to their scout elements than the scouts have resources to accomplish. Commanders must either augment their scout elements or assign some reconnaissance and security operations to their maneuver or line elements.

One option that MG Leuer did not mention was creating a brigade scout element. This would preclude the loss of combat power by forcing maneuver elements to perform missions they are not trained for and prevent the over tasking of the scout platoon.

General Leuer's closing statement pertains to all forces not just the battalion commander and his staff.

On a non-linear dynamic battlefield, effective reconnaissance and security are essential to success, and the IPB process is critical to the planning of effective reconnaissance and security. To prepare for that success a battalion must clearly define its reconnaissance and security missions and tasks, task organize its units to perform them effectively, and aggressively execute them.<sup>91</sup>

A second article, "Professional Forum: Infantry Issues and Lessons", notes that a failure to conduct successful reconnaissance and security operations results not only from inadequate force structure, but also from

inaccurate application of doctrine and inadequate unit training.<sup>92</sup>

Captain Robert R. Leonhard's article, "The Counter-reconnaissance Company", published in Infantry, discusses the resolution of counter-reconnaissance issues.<sup>93</sup> The author concludes that the mission requirement must be met for the brigade to counter Soviet doctrine. The article discusses the counter-reconnaissance company created by his unit and provides techniques for performing the counter-reconnaissance mission at the NTC. The techniques were successful, but the reader must be cognizant of the fact that these techniques were used to 'win' in a high pressure, structured environment.

The article explained the method and forces used to augment the scout platoon in this difficult mission. The units that are successful at this mission are usually successful at the NTC.<sup>94</sup> Captain Leonhard stated that dispersal was the key to success for the counter-reconnaissance company. If the company does not disperse, the commander must commit additional forces to win the counter-reconnaissance battle.

This concept has a lot of merit with today's forces, but we have not mastered the art of withdrawing these forces under pressure successfully. We have encountered fratricide problems and enemy forces becoming intermixed

with the friendly units trying to return to the main battle area.

Major Vernon Humphrey's article, "Winning at the NTC: Reconnaissance" published in Infantry, reports that poor reconnaissance by a battalion in training at the NTC was largely responsible for its failure to accomplish its mission. This was despite the presence of a small opposing force (OPFOR) unit which combines stealth and speed with an indispensable knowledge of the ground in close coordination with its parent organization. The OPFOR units use both mounted and dismounted techniques of operation and have adopted the HMMWV and military motorcycle for use with their reconnaissance elements.<sup>95</sup>

According to Major Humphrey, scout platoons rarely work for the S-2. Most commanders assign tactical missions to their scout platoon, using them as extra mechanized rifle platoons. This prevents the unit from having any early warning concerning enemy activity.

Second Lieutenant Davis's article, "The Three D's of Reconnaissance" in Armor, is a critical view of the Divisional Cavalry Squadron. He claims that it is not operationally independent or fully organized for their true mission. The Army-of-Excellence squadron is not organized to perform its mission profile. He supports the thought that reconnaissance is the duty of all troops, but battlefield reconnaissance is a highly specialized skill

that requires audacity, courage, and clear thinking.<sup>96</sup> This is especially important as maneuver forces within the brigade do not have the training or expertise to conduct reconnaissance operations. Their mission and training focus is clearly to "close with and destroy enemy forces by fire and movement."<sup>97</sup>

In the Armor magazine article, "Lessons Learned At the National Training Center: An Observer-Controller's Perspective" by Major Beaufort Hallman provided some successful techniques used by units in training at the NTC. He used the seven battlefield operating systems as the framework for his article. He mentioned the rate of advance for the OPFOR regiment in the attack as traveling one kilometer every three minutes. The OPFOR defensive obstacles and fire attacks were devastating and OPFOR jammers disrupted command and control nets at critical times during all operations. This scenario points out that a commander cannot afford to lose forces in these critical areas of the battlefield because he has not been able "see" the battlefield. The commander must have some force capable of providing him with early warning.

"Soviet Reconnaissance Operations", an article in Armor magazine, further highlights the necessity for countering Soviet offensive doctrine.<sup>98</sup> It appears that Soviets expect that the initial outset of war will consist of a series of meeting engagements as described in another

Armor article, "Winning the Meeting Engagement."<sup>99</sup>

Soviet success during meeting engagements will depend on their regiment's lead battalion and its ability to achieve surprise, speed, mass and maneuver. When possible, the Soviet battalion will organize in a column consisting of three elements: a combat reconnaissance patrol (CRP), a forward security element (FSE), and the battalion main body. The CRP is at platoon strength with the addition of one engineer and one NBC reconnaissance vehicle. The FSE is smaller than a company reinforced with engineer sections, NBC reconnaissance section, mortars and field artillery.

This aspect of Soviet warfighting doctrine serves to highlight the need for reconnaissance and security capability at all echelons. For the brigade to be able to counter the Soviet type of threat tactical array discussed above, it must exploit the weaknesses of such doctrine. A security element for the brigade could provide a forward screen and attempt to exploit threat flanks. Also, a counter-reconnaissance effort would take away the Threat commander's ability to see the battlefield and deceive him as to our specific intentions.

#### Books

John Keegan's, World Armies, described the organization of several nations selected for their threat

to U.S. security (national or strategic).<sup>100</sup> This research effort was geared toward comparing several armies of the world against the United States organization. One weakness of this process is that most nations do not become as involved in world affairs as the United States.

Our allies and adversaries consider reconnaissance an important combat multiplier, so it is beneficial to consider how other armies are organized at brigade level for reconnaissance missions.

This section will compare and contrast the brigade-equivalent reconnaissance forces of the Soviet, West German, British, Canadian, French, North Korean, and Chinese armies with the U.S. model. This will determine if the U.S. approach to reconnaissance at the brigade level is synchronized.

It appears that reconnaissance at brigade level in other armies is important for three reasons. First, the unit supports their doctrine and mode of operation. Second, other armies approach the concept of reconnaissance differently than does the U.S. Army. Lastly, these countries are willing to pay the price of for these organizations because they are important to the main forces.

The Soviet philosophy toward reconnaissance at the tactical level is to use its units purely for scouting. They do not have a screening or security mission.<sup>101</sup>

This attitude is reflected in their vehicles which are light and mobile, designed to cover long distances in their patrols. These patrols rely on speed and concealment for protection.<sup>102</sup>

Soviets conduct tactical combat reconnaissance like the U.S. Army, to obtain information for divisional, regimental, and battalion commanders about terrain and enemy in areas of the battlefield which they can directly influence. They do not subscribe to the US doctrine of fighting for information, but adhere to stealthy reconnaissance. In their view patrols that become actively involved in combat quickly lose their information gathering value.<sup>103</sup>

When extra security elements are required, combat units are tasked to execute screens often in conjunction with reconnaissance elements. Unlike the U.S., the Soviets depend less on electronic sensors and more on direct visual ground reconnaissance.

The Soviet motorized rifle or tank division has a reconnaissance battalion consisting of five reconnaissance companies. It consists of a light reconnaissance company, a radio/radar reconnaissance company, a long-range reconnaissance company, and two heavy reconnaissance companies. Patrols from the battalion will operate thirty-five to fifty kilometers forward of the division. The long-range reconnaissance company can operate as far

out as two hundred fifty kilometers. Unlike its U.S. counterpart, the battalion has no organic aviation assets.

The motorized rifle or tank regiment, counterpart to the U.S. brigade, also has a reconnaissance organization dedicated to the commander. This regimental reconnaissance company is equipped with three BMPs, four BRDMs, and five motorcycles and is organized into two platoons and a motorcycle section. The company operates ten to twenty-five kilometers ahead of the regimental main body providing early warning and reaction time to the commander.<sup>104</sup>

The Soviet division commander combining these assets has a 9:1 advantage over his U.S. counterpart, in the number of company-sized reconnaissance units he can deploy. This ratio increases when the reconnaissance capabilities of motorized rifle and tank battalions is included.

Soviet motorized rifle and tank battalion commanders are not provided with dedicated reconnaissance units. Soviet doctrine requires these units to provide combat reconnaissance patrols (CRP) from organic assets within the battalion.<sup>105</sup> This patrols mission is to gain and maintain contact with enemy units that were located by divisional and regimental reconnaissance elements.

The Soviets have a threefold purpose for conducting reconnaissance. First, they want to identify the enemy's composition and high value targets.<sup>106</sup> Secondly, the

Soviets want to develop reports on the terrain (update existing maps, observe critical features and reference points).<sup>107</sup> Third they want to confirm the decision made earlier from a map reconnaissance without the benefit of observing the terrain.<sup>108</sup> The Soviet focus is on forces rather than on terrain.

Soviets use five principles to guide their reconnaissance efforts: continuity, aggressiveness, timeliness, purposefulness, and reliability. Soldiers and units are trained to gain and maintain continuous observation of enemy units on the battlefield.

In collecting information, at the tactical level, Soviet commanders are trying to ensure the successful advance of their units at the fastest possible speed.

Enemy activities and maneuvers must be constantly monitored, for to lose touch with the enemy in mobile battle makes one vulnerable to surprise attack on an exposed flank, or to serious delay by a rapidly prepared defensive position.<sup>109</sup>

Major James G. Diehl summing up Soviet reconnaissance in his thesis appropriately wrote:

After an analysis of Soviet reconnaissance doctrine and a comparison with American doctrine, we can safely conclude that the heavy division's tactical reconnaissance formations need to be able to flexibly employ all types of combat units and utilize both stealth and combat techniques to extract information on the enemy.<sup>110</sup>

In summary all commanders, including the regimental commander (U.S. brigade-equivalent), have tactical reconnaissance requirements and the organic assets to perform the mission.

The Soviets recognized the importance of reconnaissance and security. Recent changes have been made to improve their scouting capabilities by adding tanks to their reconnaissance elements at both regimental and battalion level.<sup>111</sup>

To attain depth, the Soviet operational commander employs multiple and complementary reconnaissance assets against enemy forces he perceives as being most vulnerable to attack. He fully expect these assets to conduct reconnaissance to the front, flanks, and rear of this formation.

The Federal Republic of Germany is normally organized into heavy divisions, the Army's thirty-six combat brigades form the primary maneuver forces.<sup>112</sup>

The Germans have a heavy reconnaissance/surveillance regiment (battalion size) at division level for information gathering. This battalion is equipped with thirty-one Luchs and thirty-one Leopard tanks, which would indicate that this organization is designed to fight for information if necessary.

The German tank or mechanized infantry brigade has a fixed combined arms design like the soviet regiments. Army and infantry battalions will most often fight pure.

The German brigade has a platoon consisting of six sections of two Luchs wheeled scout vehicles each.<sup>113</sup> This element works directly for the brigade commander using stealth as its primary tactic.

At the battalion level, the Germans informational requirements can be met by patrols sent out by the subordinate companies. This is the same technique use by Soviet battalion commanders.

The Germans doctrine supports the brigade as the primary synchronizing headquarters. The brigade commander is provided with the necessary reconnaissance to gather information needed to perform the synchronization of combat elements.

The German and Soviet reconnaissance structure possesses an inherent redundancy by eliminating gaps at the crucial brigade echelon of command.<sup>114</sup> Neither armies have a specialized platoon at battalion, but it does not seem to impede operations because of the use of small unit patrols.

In 1981, the British Army restored the brigade level of command within its armored and infantry divisions. The British regimental system still drives their organizational

design and influences force structure within the division.<sup>115</sup>

The brigades within the armor division are organized with a mix of tank regiments and mechanized infantry battalions, and does not normally have a dedicated reconnaissance element. Like the U.S. brigade, the battalions have their own reconnaissance platoon of eight Scimitar or Scorpion light tracked scout vehicles.<sup>116</sup>

In the infantry divisions, the brigades each have an organic reconnaissance regiment (battalion) equipped with Fox, Saracen and Ferret wheeled scout cars. The infantry battalions also have wheeled vehicle scout platoons.

The British division lacks an organic reconnaissance unit itself and relies on subordinate units or corps level reconnaissance regiments for its reconnaissance needs.

The British system is fragmented, at the brigade level the regimental system either provides no element (armored division) or a battalion (infantry division). The result is a lack of reconnaissance redundancy and complementarity throughout the forces.

Canadian brigades resemble U.S. separate armored or infantry brigades.<sup>117</sup> The standard brigade, commanded by a brigadier general, consists of a fixed combination of maneuver battalions, an engineer battalion, service battalion, medical ambulance company, and artillery battalion.

Like the U.S., the Canadians will routinely cross-attach companies from the maneuver battalions to form battle groups (task forces). Company teams are formed by exchanging platoons within the tank and mechanized infantry companies.

The Canadians have a divisional reconnaissance regiment (battalion) which will complement the brigade and battalion reconnaissance units, creating a redundant reconnaissance structure.<sup>118</sup>

Reconnaissance elements are organic at both the brigade and maneuver battalion. One squadron (company) is organized and equipped to perform reconnaissance for the brigade commander. This squadron operates from ten to fifteen kilometers forward of the brigade in its eighteen Lynx tracked armored reconnaissance vehicles. Due to the light weight and limited firepower of the Lynx, reconnaissance is carried out principally by stealth.

By structuring one company-size reconnaissance force within the tank regiment, the Canadians appear to have resolved the brigade reconnaissance problem with the constraints of the regimental system. To provide redundancy, the two mechanized infantry battalions have their own scout platoons outfitted with nine Lynxes.

The French armored division strength is seven thousand, small by U.S. standards. It is structure with two mechanized infantry battalions, one motorized

battalion, two armored regiments (battalions) and assorted combat support and combat service support units. The division has the appearance of a reinforced brigade.<sup>119</sup>

The French provide organic reconnaissance at both division and regimental levels. The division has an organic reconnaissance troop (company) consisting of four platoons; three reconnaissance platoons and one radar surveillance platoon.

The French have always been a great proponent for stealthy reconnaissance and are one of the world's producers of armored cars. French reconnaissance units above the division level are equipped with heavier armored reconnaissance vehicles in order to accomplish various economy of force and security missions.<sup>120</sup>

The division reconnaissance troop and regimental scout platoons are mounted in lightly armed 1/4 ton trucks. Therefore the majority of French reconnaissance elements use stealth techniques and emplace discrete observation posts during surveillance missions.

North Korean has always been the most militarized state in the world. Recent efforts at reunification indicate a changing attitude between both countries, but an element of mistrust still exists.

There are eighteen tunnels under the Demilitarized zone constructed to invade the south. North Korean acquisition of 1030 tanks insures the fragility of South

Korea's border. North Korea is ranked fifth in the world in per capita military strength.<sup>121</sup> It is believed that there are between thirty and thirty-five divisions in the North Korean army consisting of 750,000 personnel.

The North Korean divisions are organized on Soviet style and design. Each division consists of three regiments of three battalions each, three artillery battalions, an anti-aircraft battalion, an anti-tank battalion, an engineer battalion, a reconnaissance company, and a chemical warfare company.

The North Korean Army contains a mix of equipment most of which comes from China and the Soviet Union. Their reconnaissance units are mounted in BTR-40 and BTR-60 armored personnel carriers.<sup>122</sup> The tactics of these forces are the same as the Soviets and will not be repeated here.

The Chinese Army is organized on a conventional triangular pattern. The infantry divisions contain a reconnaissance battalion along with the conventional mix of infantry, armor and artillery. The armor divisions have a similar organization, but the reconnaissance battalion and company has a mix of armored cars and light tanks.

At the regimental level a reconnaissance unit of armored cars and motorcycles is organic. At all levels the Chinese endorse reconnaissance using stealthy techniques.

## COUNTRY RECONNAISSANCE COMPARISON

ECHELON OF COMMAND (US EQUIVALENT)				
COUNTRY	CORPS	DIVISION	BRIGADE	BATTALION
SOVIET		RECON BN	RECON CO	OWN ASSETS
GERMAN		RECON BN	RECON PLT	OWN ASSETS
BRITISH	REGIMENT	NO ASSET	RECON BN	RECON PLT
CANADIAN		RECON BN	RECON CO	RECON PLT
NORTH KOREA		RECON BN	RECON CO	OWN ASSETS
CHINA		RECON BN	RECON CO	RECON PLT
FRENCH	RECON BN (HVM)	RECON TRP	RECON PLT	
U.S	CAVALRY REGIMENT	CAVALRY SQUADRON	NO ASSET	RECON PLT

**Fig. 11. Comparison of Reconnaissance Worldwide.**

OPFOR ground reconnaissance operations at the NTC replicate the two primary Soviet methods of troop reconnaissance, observation and patrolling. The Motorized Rifle Regiment intelligence officer receives reliable information on defending task forces which the commander uses to modify his original attack plan in order to place OPFOR strength against enemy weaknesses. These operation are conducted successfully at the NTC by a professional OPFOR designed in the Soviet model. This unit is organic to the motorized rifle regiment and supports the thesis that these units are necessary for the U.S. brigade commander to exercise the same success as the OPFOR commander at the NTC.

In summary, using a cross section of armies around the world reconnaissance is conducted at the division level using more lethal means. At the brigade and lower stealth appears to be the norm. It is also evident that another question unfolds that requires further study. The question is whether to equip the unit with wheeled or tracked vehicles. This is significant when one considers the cost differences between tracked and wheeled vehicles. Another question is how much protection does the unit need. Rarely does the commander have the time to conduct reconnaissance at the pace that stealth demands in AirLand Battle.

Sun Tzu and Carl Von Clausewitz were early thinkers and theorists who provided insights on warfare in their books, The Art of War<sup>123</sup> and On War<sup>124</sup>, respectively.

Neither addressed reconnaissance directly, but both saw the necessity for security and knowing as much about the enemy as possible.

Clarke, Truscott and Patton were well known U.S. Army armor general officers during World War II. Each realized the importance of reconnaissance troops to the combat command level in armor divisions. Clark successfully used reconnaissance assets in all three combat commands at the battle of Nancy.<sup>125</sup> Truscott discusses the cavalry before World War II as a starting point for the historical aspect of the paper in his book, The Twilight of the U.S. Cavalry.<sup>126</sup> Patton's, War as I Knew it, provided the consummate authority on reconnaissance as it is expounded in our doctrine.<sup>127</sup>

These books in conjunction with George Howe's History of the 1st Armored Division, provided the best perspective for Cavalry organizations in the 1st Armored Division and the need for reconnaissance prior to World War II.<sup>128</sup>

In About Face, David Hackworth discusses the necessity for improvising with the forces available and provided a parallel comparision for current organizational activities in Europe.<sup>129</sup> Hackworth described how his brigade reconnaissance platoon (not authorized by the TO&E) was formed by the brigade commander and used for patrolling and capturing of prisoners during the Korean War. He noted

that combat adjustments have to be made to correct for organizational and equipment deficiencies.<sup>130</sup>

James England's book, Long Range Patrol Operations: Reconnaissance, Combat and Special Operations, provided a good prospective on the Long Range Surveillance Detachment and the capabilities and limitations of this organization.<sup>131</sup> He highlight the difficulties associated with insertion and extraction of these long range organizations and concluded that depending on the Threat, it may be counter-productive to emplace these elements.

Simkin, Fuller and Triandafillov present early thoughts on armored warfare. The speed of mechanized forces was envisioned by these men, but could not be realized by the technology of the times. These men provided the basis for our thoughts on deep operations and attacking centers of gravity. All three men wrote about reconnaissance at the beginning of mechanized warfare.

V. K. Triandafillov's, Nature of Operations of Modern Armies, stated "the commander must concern himself with timely organization of reconnaissance to avoid pre-conceived decisions...only ground-based reconnaissance will be capable of providing more precise data on what enemy forces have occupied what local points..."<sup>132</sup>

In Armored Warfare, J.F.C Fuller stated, "Information is the foundation of battle...during battle,

it is of the utmost importance that the maximum of information regarding the enemy should be gathered...<sup>133</sup>

Richard E. Simpkin reminds us in Mechanized Infantry, "Reconnaissance is basically about surveillance and information gathering.....reconnaissance is about a pair of eyes and ears. Nowadays backed up by an array of electronic and optical systems, and a radio set."<sup>134</sup>

#### Documentation From TRAC and Fort Knox

Documents provided by the Directorate of Combat Developments at Fort Knox supported the thesis that an organic element is needed in the brigade. These documents in the form of memos and briefing slides provided the latest material on the topic of brigade scout. Several documents were instrumental in the formulation of chapter five. A copy of the TO&E for the ten vehicle scout platoon illustrated the equipment requirements and uniqueness of the platoon.<sup>135</sup>

Briefing slides, provided by the Directorate for Combat Developments at Ft. Knox, explained the deployability and capability of the Armored Gun System. Requirements for this system state that it must be a C-130 deployable platform with M-60A3 tank capabilities has potential.<sup>136</sup>

There is currently no method of providing feedback for reconnaissance and security with quantitative measures

using our current wargaming models. In a phone conversation with the analysis offices at TRAC and Fort Knox, none of the offices has conducted any modeling on brigade reconnaissance organizations.<sup>137</sup> No reason was given for this oversight. One might assume it is because of the low priority this issue was rated during the Cavalry Net Assessment. Current actions at TRAC and Ft. Knox center around the proposed light cavalry regiment.<sup>138</sup>

Three documents from Fort Knox provided data on the brigade scout concept doctrine, organization and a draft concept statement. The first document, a disposition form (DF) dated 3 June 1988, was the original proposal for a brigade organization and discussed the roles and missions required of the unit. It also eluded to NTC results to support the thesis that a scout organization is needed and that it should be larger than the battalion scout platoon.<sup>139</sup> The second document, dated 4 January 1990, was a memorandum for the Commandant, U.S. Army Armor School, to justify the inclusion of a brigade scout platoon in the future Army reorganization. This memorandum concluded that diverting battalion scouts to brigade missions reduces the battalions effectiveness and overextends the platoon.<sup>140</sup>

The last document, dated 20 November 1991, discussed the doctrinal nature of the need for a scout organization. No rational was provided for the size needed, but provided

an explanation of how the scout organization could meet the requirements of the tenants of AirLand Battle, an identification of the missions it would perform, how it performed those missions, and a discussion of the limitations it would have placed upon it.<sup>141</sup>

#### After Action Reports (AARs)

Organizations on post such as TRADOC Research and Analysis Center (TRAC) and Center for Army Lessons Learned (CALL) were able to provide some data to add to current status of this issue. The CALL bulletins provided lessons learned according to each battlefield operating system:

Lessons from our combat training centers have shown the strong correlation between successful reconnaissance and security and overall tactical success. This correlation is hardly surprising, for surprise and security have been proven historically and are included as principles of war by all armies.<sup>142</sup>

The Center for Army Lessons Learned (CALL) published a series of documents addressing assessments of the enduring lessons learned from the Combat Training Centers (CTC).<sup>143</sup> CTCs are the NTC at Fort Irwin, the Combat Maneuver Training Center (CMTC) at Hohenfels, Germany, and the Joint Readiness Training Center (JRTC) at Fort Chaffee, Arkansas.

The mission of the NTC is to provide tough and realistic training to the Army and Air Force in mid to

high intensity conflicts in accordance with AirLand Battle doctrine. The foundation of the NTC is the training objectives which are based on a unit's war time mission executed on the most realistic battlefield available in peacetime. The NTC provides a well-trained realistic opposing force and provides performance evaluation and feedback through instrumented and proficient controller observation. The NTCs also provide tactical lessons learned to the Army worldwide.<sup>144</sup>

The CALL Bulletin provides feedback from the NTC that focuses on strengths and weakness in doctrine, training, organization and material observed in exercises and operations.<sup>145</sup> Articles in publication indicated that there is a continuing problem with reconnaissance and security operations at the NTC. The problem generally highlights specific weaknesses within the training of reconnaissance and security tasks. Tasks such as screening the battalion front, counter-reconnaissance, and poor use of indirect fire have hamper the platoons ability to execute missions properly. Additional areas include aspects of the reconnaissance and security organizations and material.

In 1988, CALL distributed the CALL Compendium, which addresses heavy forces. These newsletters inform the Army of recurring lessons learned that are long term and not unique to the desert environment.<sup>146</sup> This publication

addresses problems by reviewing the lessons learned within the seven battlefield operating systems: maneuver; mobility, counter-mobility, and survivability; fire support; air defense; intelligence; combat service support; and command and control.<sup>147</sup>

A determination was made that reconnaissance and security operations have a direct impact at the brigade level on all aspects of the seven battlefield operating systems. The most direct impact is found within the systems of maneuver, intelligence, and command and control.

A review of NTC observation reports submitted for NTC battalion task force and brigade rotations, exercises, or tests, provided information which highlight potential problems within our reconnaissance and security organizations, material and unit training. The observation reports continually highlight the need for the commander to see the battlefield. As noted, the brigade does not possess the ability to look deep other than electronic.<sup>148</sup> It stated that:

Some brigade and task force commanders are unable to achieve an appropriate combat ratio after the battle begins due mainly to their lack of knowledge about the enemy situation.<sup>149</sup>

A review of CALL materials presented the lessons learned from unit rotations at the NTC. One of the first

problems addressed was the battlefield operating system of intelligence. Evaluators attribute this failure to the staff development of a poor intelligence preparation of the battlefield (IPB), a lack of synchronized staff work, and failure to confirm elements of the enemy situational template developed during the IPB process.<sup>150</sup> The major failure in the IPB process comes from poor reconnaissance and security operations. "Physical reconnaissance, on the ground, is necessary to confirm or refute the situation template."<sup>151</sup>

The lack of an organic asset to conduct reconnaissance and security operations leaves the brigade commander with three choices of action. His first choice may be to utilize battalion scout assets for these tasks. The problem with this solution is that the battalion scouts are not organized and equipped with the material suitable for reconnaissance and security operations to the depth needed for the brigade to prepare a timely response to the threat. His second choice may be to utilize assets from battalions within the brigade. The major drawback here is that the organization is not trained to conduct these missions, does not have redundant communications equipment to maintain contact with the brigade, and the solution reduces the combat power available to the commander.

The commander's third choice is to request and utilize assets from the division cavalry squadron and the

division military intelligence battalion. This requires the brigade commander to work with assets that may not habitually associate with the brigade. Many unknowns influence the employment of external assets. Such items as training, quality of reporting, and standards of performance can cause significant problems for the brigade. Problems also arise from the division of assets. With two ground troops how does the division commander divide this asset amongst three brigades?

The second CALL lessons learned issue centered around reconnaissance.

Recon is the basis for successful attacks. Eighty-three percent of units which recon effectively before deliberate attacks win. Ninety percent of those that don't lose. (Note: Effective recon is reporting enemy positions and obstacles in sufficient detail to confirm the IPB template by H-1).<sup>152</sup>

This statement certainly underscores the importance of reconnaissance and indicates that if performed properly, reconnaissance is the key for success in battle. Units have instituted local fixes to the problem. In order to win at the NTC, units have augmented their reconnaissance forces in order to be effective. The technique raises the question of whether this is done out of necessity or to just win at the NTC. Results have shown that:

Scouts can't do all the recon for a task force. Fifty percent of units which augment scouts to conduct reconnaissance, win. Sixty percent of those that don't, lose.<sup>153</sup>

Battalion task forces have augmented their scouts with up to a company/team organization in order to be successful at NTC. At the brigade level, the commander must organize a reconnaissance force augmented as necessary to meet the threat. Based on the size of the Threat and the area of operations, the brigade could possibly have to allocate up to one-third of its force to conduct reconnaissance in order to be successful at NTC.

Security operations is the third issue identified in CALL materials. The contribution to overall success by reconnaissance is closely followed by the unit's ability to perform security operations. Although the problem focuses on forces in the defense, the principles of security also apply in the offense as well. As indicated in the CALL material:

Security is the basis for successful defenses. Seventy five percent of units which maintain security, win. Ninety three percent of those that don't, lose. Security involves defeating both mounted and dismounted enemy recon elements as well as good communications security (COMSEC).<sup>154</sup>

At the brigade level, a decision must be made as to the type of force security the brigade desires in front. The brigade can use either screen or guard missions to

accomplish the goal of force security. These missions require that the brigade conduct some type of counter-reconnaissance operations.

Screening forward of the brigade provides time for units in the main battle area at the cost of some small teams and detachments (probably battalion task force scouts). Guard actions forward of the brigade forces the commander to "trade off combat power available to fight the main battle" and organize a force to push out forward of the brigade for counter-reconnaissance operations. With as much as one-third of his force forward in a guard mission, its failure at counter-reconnaissance can spell defeat for the main battle area.

The analysis shows that successful reconnaissance and security operations are key to success or failure on the NTC battlefield. However, the analysis fails to show whether our units are restructuring to win at the NTC by compensating for a force structure deficiency.

There are some characteristics and limitations of the NTC that are not consistent with doctrine. Even though the brigade may operate independently, it will most often operate as part of a division. Divisional assets, such as portions of the divisional cavalry squadron, do not participate as part of brigade operations at the NTC. The forward brigade should have some type of divisional, or possible corps, assets to their front conducting recon-

naissance and security missions. With these assets fully deployed, brigades could expect some enemy forces to be stripped away. This may indicate that brigade operations at the NTC are set in somewhat of a sterile environment.

Evaluation reports indicate that the divisional ground maneuver brigades have noted a need for an organic reconnaissance and security capability. Following a brigade rotation at the NTC one observer noted, "The heavy brigade needs a scout platoon for route recon, movement control, long range recon and a limited screen capability."<sup>155</sup>

#### Commander's Comments

In several after action reports sent to the III Corps Commander, Lieutenant General Saint, all of the brigade commanders suggested a need for a troop at the brigade for reconnaissance and security missions.<sup>156</sup> Two of the brigades augmented their organizations, while one brigade used only its internal assets. For example, the 1st Infantry Division brigade added an aerial recon troop from the division cavalry squadron to its organization.<sup>157</sup> In the AAR, the commander, Colonel Bruce Clark suggested a doctrinal recommendation:

A brigade-sized element needs an organic or attached ground recon and surveillance unit of at least a platoon, preferably troop size in addition to the scout platoons of it's task forces to effectively fight the deep battle. Recommend that

future force alignment address the substitution of a troop size equivalent for the heavy brigade.<sup>158</sup>

The 5th Infantry Division brigade took both ground troops out of its divisional cavalry squadron to the NTC.

The brigade after action report stated:

The brigade has no organic assets for scout/OP missions. The brigade is the only element at task force level or above that does not have this capability. Each brigade typically develops its R&S plan using task force assets, thus significantly hindering task force R&S plans. The TO&E should be developed to provide brigade scouts to develop the intelligence picture for the brigade commander.<sup>159</sup>

The final lesson learned, as pertains to NTC, addresses the commander's ability to see the battlefield.

Some commander's have difficulty in "seeing" or visualizing the battlefield. Without a clear mental image of what is occurring in his zone or sector, a commander finds it impossible to synchronize the employment of the combat multipliers at his disposal.<sup>160</sup>

The brigade commander requires augmentation from division or corps to assist him in knowing what is to his front in the way of enemy and terrain. One way for the brigade commander to enhance his ability to see the battlefield is to conduct an extensive intelligence preparation of the battlefield (IPB) which includes the verification of the situation template by reconnaissance assets. This adds a mental picture.<sup>161</sup> The commander

must have timely, accurate information on the enemy situation and area to his front and must also be able to confirm elements of the IPB process to assist in his visualization of the battlefield. Once again, reconnaissance and security operations at the brigade level must be conducted with external augmentation forces or with an improvised organization using forces from within the brigade.

The best solution would be to provide the brigade commander his own organic reconnaissance and security organization.

The AARs to Lieutenant General Saint, from three different divisions addressed the issue of adding a reconnaissance/security asset to the brigade organization. First Brigade, 4th Infantry Division sent a report through the Division Chief of Staff, Colonel William Annan, which stated, "Aggressive reconnaissance was critical to the outcome of the battle."<sup>162</sup>

First Brigade, 5th Infantry Division trained their scout sections to report only at specific times, and to walked to their observation post (OP) positions. The brigade still did not achieve notable success. Noteworthy, during this rotation, the brigade had two ground troops from the Divisional Cavalry Squadron assigned.

The last AAR written by Colonel Bruce Clark, Commander of the First Brigade, 1st Infantry Division, made

a doctrinal recommendation of having at least a scout platoon for the brigade and suggested communications capabilities for OPs and collection assets to talk to the commanders. He also suggested the linkage of the finders to the killers.<sup>163</sup> He noted the inability of his brigade to maintain contact with the enemy and weaknesses in providing twenty-four hour security. He recommended in movement to contact missions, scouts must get out early, go deep, and understand enemy doctrine.<sup>164</sup>

In February 1990, Colonel William Nash, commander of First Brigade, 3rd Armored Division, wrote a memorandum to the Commander of the Third Armored Division. This was an AAR in which his brigade was tasked to experiment with a brigade scout platoon.<sup>165</sup> Colonel Nash was given a scout platoon from Fourth battalion of the Eighth Cavalry Regiment with six HMMWVs. The results of this test indicated that the use of the platoon freed the brigade's subordinate units to perform their missions more effectively and allowed the battalion commanders and their staffs more time to focus on the battle.

Colonel Nash recommended that a ten vehicle scout platoon (manned of one officer and twenty-nine enlisted men) perform this role. The solution, however, provides only three men per vehicle which limits the dismounted and continuous operations capability of the organization.

The VII Corps Desert Storm 100 hour War Brief contained twenty-three slides covering the lessons learned from the operations. The main point stated that the doctrine is sound and works, however, the brief recommended a reconnaissance and security organization should exist at every level from battalion to corps.<sup>166</sup> This suggestion was made by Lieutenant General Franks, the Corps Commander.

#### Interviews

Major Brandl, Force Development Office Fort Leavenworth, provided the most startling information for this paper. In, October of 1991, Brigadier General Wesley Clark, TRADOC Chief of Staff for Force Development, sent a tasker to Combined Arms Center, Force Development, stating that the TRADOC Commander, General Franks, wanted a study conducted to get brigade scouts into the system as soon as possible.<sup>167</sup>

Major Brandl also stated that divisions will consist of nine battalions, dropping one armor battalion as the billpayer for the divisional cavalry changes, which add tanks and a third ground troop. The significance of this descision is that it still leaves the sixty-five man Anti-Tank company to be a possible billpayer for brigade scouts.

### SUMMARY

This Chapter reviewed literature discussing the reconnaissance/security issue from 1942 to the proposed solutions of the year 2000.

This review of literature conclusively supports the idea that the brigade needs an organic reconnaissance/security asset. By analyzing the mission requirements of reconnaissance and security operations, and covering current publications, it is evident that an element is required at the brigade level to provide these capabilities.

Most of the literature in the late 1970's determined that a platoon size organization would be the proper element to serve the needs of the brigade commander, but very little analysis has been done to support this conclusion.

In conclusion, although most studies focused on either reconnaissance or security, their mission inter-relationship requires that both roles be addressed.

## CHAPTER 2

### ENDNOTES

1. Lord Salisbury, About Face, by COL(R) David Hackworth, 314.
2. U.S. Army, Field Manual 100-5, Operations, (Washington, D.C.: U.S. Government Printing Office, 1986), 23.
3. Ibid., 184.
4. Ibid., 2.
5. U.S. Army, Field Manual 71-100, Division Operations, (Washington, D.C.: U.S. Government Printing Office, 1988), 1-21, 1-27.
6. U.S. Army, Field Manual 71-3, Armored and Mechanized Infantry Brigade, (Washington, D.C.: U.S. Government Printing Office, 1988), 3-2.
7. Ibid., 3-2, 3-3.
8. Ibid., 4-2.
9. Ibid.
10. U.S. Army, Field Manual 100-5, Operations, (Washington, D.C.: U.S. Government Printing Office, 1986), 183.
11. Ibid., 10.
12. U.S. Army, Field Manual 100-15, Corps Operations, (Washington, D.C.: Headquarters Department of the Army, 1989), 5-2.
13. U.S. Army, Field Manual 71-100, Division Operations. (Washington, D.C.: Headquarters Department of the Army, 1990), 4-23, 4-25.
14. Ibid., 1-6.
15. U.S. Army, Field Manual 71-3, Armored and Mechanized Infantry Brigade, (Washington, D.C.: Headquarters Department of the Army, 1988), 3-16, 3-17.
16. U.S. Army, Field Manual 7-93, Long-Range Surveillance Unit Operations, (Washington, D.C.: Headquarters Department of the Army, 1987), 1-1.

17. U.S. Army, Field Manual 100-2-1 Final Draft, The Soviet Army Operations and Tactics, (Washington, D.C.: Headquarters Department of the Army 1991) Chapter 7, 1.
18. The General Board, U.S. Forces, European Theater, Mechanized Cavalry Units, Study Number 49, November 1945, Appendix 4, 2.
19. Ibid., 4.
20. Major James E. Wolf, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? School of advanced Military studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, 30 Nov 1988, 25.
21. U.S. Army, Division 86 Analytical Methodology, U.S. Army TRADOC, Fort Leavenworth, Kansas, Mar 9, 1981.
22. General Officer Workshop, Fort Leavenworth, Kansas, 29-30 Nov 1978, 4.
23. Ibid., 5.
24. Ibid., 6.
25. U.S. Army, Division Wargame Analysis, Headquarters, Combined Arms Center, Fort Leavenworth, July 1978, 4.
26. U.S. Army, Division Wargame Test Directorate, Fort Hood, Texas, 20 April 1978.
27. Division Restructuring Concept, Report of the DA Staff/War College Review Group. Carlisle Barracks, PA, 19 Jan 1977, 20.
28. Ibid., 21.
29. Ibid., B-16.
30. General John W. Foss, "AirLand Battle-Future", Army Magazine, Mar 1991, 23.
31. U.S. Army Armor Center, Battalion Scout Platoon Concept and Evaluation Plan, Directorate of Combat Developments, Fort Knox, Kentucky 1990, 31.
32. Army-of-Excellence Final Report Vol III The Heavy Division, U.S. Army Combined Arms Combat Development Activity, Fort Leavenworth, Kansas, 2-5.
33. Ibid.

34. U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2-9.
35. Ibid., 2-11.
36. U.S. Army Armor School, Scout Platoon CEP, Directorate for Combat Developments, Fort Knox, Kentucky, 8.
37. U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2-12.
38. Colonel (Ret) Sidney S. Haszard, World War II motorcycle scout and former divisional cavalry squadron commander, U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2-12.
39. Ibid., 2-13.
40. U.S. Army Armor Center, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2.
41. Ibid., 4.
42. Ibid., 1.
43. Ibid., 27.
44. Ibid., 2-22.
45. Ibid., 2-25.
46. Ibid.
47. U.S. Army Armor Center, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 31.
48. Major John D. Rosenberger, An Assessment of Reconnaissance and Counter-reconnaissance Operations at the National Training Center, U.S. Army Armor School, Fort Knox, Kentucky, February 1987, 10.

49. U.S. Army Combined Arms Center, "Tasking for CAC: Reconnaissance, Surveillance and Counter-reconnaissance Assessment," Commander, TRADOC 15 May 1988 Fort Leavenworth Kansas, 1.
50. U.S. Army Combined Arms Center, "Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," Briefing for General Officer Executive Committee, CAC, 30 Sep 1988, Fort Leavenworth, Kansas, 5.
51. Ibid., 6.
52. Major John S. Chappell, Security Operations: Current NET Value of NTC Lessons Learned for the Divisional Ground Maneuver Brigade. School of Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas 1988, 27.
53. U.S. Army Combined Arms Center, "Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," Follow-up meeting for General Officer Executive Committee, CAC, 8 Dec 1988, Fort Leavenworth, Kansas, 101.
54. U.S. Army Armor School and Directorate of Combat Developments, Battalion Scout Platoon Concept and Evaluation Plan, Fort Knox, Kentucky 1989, 20.
55. U.S. Army Armor School and Directorate of Combat Developments, After Action Brief on the Battalion Scout Platoon Concept and Evaluation Plan, Fort Knox, Kentucky, Jan 1990, 3.
56. CPT Ken Schwartz, Action Officer Directorate of Combat Developments, in a phone conversation with the author, Fort Knox, Kentucky, November 1991.
57. U.S. Army Armor School and Directorate of Combat Developments, After Action Brief on the Battalion Scout Platoon Concept and Evaluation Plan, Fort Knox, Kentucky, Jan 1990, 5.
58. Major General Thomas C. Foley, Cover Letter, Branch Operational Concept, 7 May 1991
59. Ibid.
60. U.S. Army Armor Center, Branch Operational Concept For The Armor Force as Part of The AirLand Operations Combined Arms Team in Twenty First Century Battle, Headquarters, Fort Knox, Kentucky, 7 May 1991, 12.

61. Ibid., 20.
62. Ibid.
63. John Keegan, World Armies, Second Edition, Gale Research Company, Detroit Michigan 1983, 341.
64. U.S. Army Armor Center, Branch Operational Concept For The Armor Force as Part of The AirLand Operations Combined Arms Team in Twenty First Century Battle, Headquarters, Fort Knox, Kentucky, 7 May 1991, 22.
65. Headquarters, U.S. Army Armor Center and Fort Knox, Armor 2000 - A Balanced Force for the Army of the Future, White Paper, Department of the Army. 10 July 1990, 13, 14, 15.
66. Ibid.
67. Major (P) Craig S. Harju, White Paper, A Study of the Maneuver Battalion Reconnaissance or Scout Platoon. 18 Sept 1989, 23.
68. Major James E. Wolf, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? School of Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, 30 Nov 1988, 29.
69. Ibid., 29.
70. U.S. Army Armor School, "Brigade Scouts," prepared by the Directorate of Combat Developments, 3 June 1988, CALL, Fort Leavenworth, Kansas, 1 through 7.
71. Ibid., 3.
72. Major James F. Wolf, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements?, School of Advanced Military Studies, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1988, 5,6,7.
73. Major Terry A. Wolff, Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective?, School of Advance Military Studies, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1988, ii.

74. Major Myron J. Griswold, Counter-reconnaissance Operations of the Heavy Battalion Task Force on the AirLand Battlefield. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 16 December 1985, 10.
75. Major Frederick R. Kienle, "Reconnaissance-Pull" - Seeking the Path of Least Resistance. School of Advanced Military Studies, U. S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1990, 4.
76. Major James E. Wolf, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? School of Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas 30 Nov 88, 3.
77. Ibid.
78. Field Manual 71-3, Armored and Mechanized Infantry Brigade, Headquarters, Department of the Army. Washington, D.C. 11 May 1988
79. Major James E. Wolf, Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? School of Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas 30 Nov 88, 25.
80. Master Training Plan 17-257-10, Scout Platoon Washington, D.C. June 1988, 17
81. Major Guy C. Swan, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough?, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas 14 December 1988, 25.
82. Lieutenant Colonel James B. Hollis, Jr., "Screen, Cover, Guard! What's the Difference?", Military Review, Headquarters, Department of the Army, U.S. Army Command and General Staff College, July 1983, 68.
- 83 Brigadier General John C. Bahnsen, Jr., "The Kaleidoscopic U.S. Army", Armed Forces Journal International, November 1985, 81.
84. U.S. News and World Report, "Stalking the JANUS-Faced God of War", January 20, 1992, 52.

85. The Army Times, "LOSAT Delayed Two Years, Deployment Limited", Army Times, Springfield, Va., March 16, 1992, 35.
86. Mr. Charlie Sheppard, Fort Knox, Directorate of Combat Developments, Telephone conversation with the author, November, 1991. Substantiated in a conversation with Col. Stan Cherrie, VII Corps G-3 Plans
87. General John D. Foss, "AirLand Battle-Future." Army Magazine, March 1991, 22.
88. Ibid., 21.
89. Ibid., 23.
90. Major General Kenneth C. Leuer, "Reconnaissance and Security." Commandant's Note, Infantry, July-August 1988, 1.
91. Ibid., 2.
92. Jan Chervenak and Eric J. Lynam, "Professional Forum: Infantry Issues and Lessons," Infantry, Volume 78, Number 4, 11.
93. Captain Robert R. Leonhard, "Counter-reconnaissance Company". Infantry, January-February 1988, 23.
94. Ibid., 25.
95. Major Vernon W. Humphrey, "Winning at the NTC: Reconnaissance", Infantry, January-February 1984, 35.
96. Second Lieutenant Geoffrey C. Davis, "The three D's of Reconnaissance." Armor, March-April 1982, 24.
97. Field Manual 71-3, Armored and Mechanized Infantry Brigade, Headquarters, Department of the Army. Washington, D.C. 11 May 1988
98. Colonel William W. Crouch, "Soviet Reconnaissance Operations", Armor, November-December 1981, 28.
99. Major David Ozolek, "Winning the Meeting Engagement," Armor Volume XCVI, Number 1, 10 through 12.
100. John Keegan, World Armies, Second Edition, Gale Research Company, Detroit Michigan 1983, 341.
101. David C. Isby, Weapons and Tactics of the Soviet Army, (London: Jane's Publishing Company, Ltd., 1988), 371

102. Ibid.
103. Major Myron J. Griswold, Counter-reconnaissance Operations of the Heavy Battalion Task Force on the AirLand Battlefield. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 16 December 1985, 10.
104. David C. Isby, Weapons and Tactics of the Soviet Army, (London: Janes' Publishing Company, Ltd., 1988), 371
105. Field Manual 100-2-1, The Soviet Army: Operations and Tactics, Washington, D.C.: Department of the Army, 16 July 1984, 5-2.
106. Red Army, Red Army Field Regulation, 1944. (Fort Leavenworth reprint, 1987), paragraphs 166-169.
107. Ibid.
108. Ibid., 19
109. Ibid., 31
110. Major James G. Diehl, Who is Out There? Tactical Reconnaissance Formations for the Heavy Division. School of Advanced Military Studies. U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 6 December 1988, 17.
111. U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment - Master Plan, "Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2.
112. RB 100-3, Interoperability of British, Canadian, German, and United States Forces (Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, November, 1983), 2-8.
113. David C. Isby and Charles Kamps, Jr., Armies of NATO's Central Front (London: Janes' Publishing Company, Ltd., 1985), 184.
114. Major Guy C. Swan, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough?, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas 14 December 1988, 25.
115. Ibid., 25.

116. David C. Isby and Charles Kamps, Jr., Armies of NATO's Central Front (London: Janes' Publishing Company, Ltd., 1985), 247.
117. Ibid., 91.
118. Lieutenant General J. Fox, , "The Restructuring of the Canadian Army," NATO's Sixteen Nations, October 1988, 20.
119. David C. Isby, and Charles Kamps, Jr., Armies of NATO's Central Front (London: Janes' Publishing Company, Ltd., 1985), 120-123.
120. Major Guy C. Swan, Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough?, School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas 14 December 1988, 27.
121. John Keegan, World Armies, Second Edition, Gale Research Company, Detroit Michigan 1983, 341.
122. Ibid., 343.
123. Sun Tzu, The Art of War, Translated by Samuel B. Griffith. London: Oxford University Press, 1963.
124. Carl von Clausewitz, On War, Edited and translated by Michael Howard and Peter Paret, Princeton, NJ: Princeton University Press, 1984.
125. Dr. Christopher R. Gabel, The 4th Armored Division in the Encirclement of Nancy, Combat Studies Institute, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 4.
126. General Lucian K. Truscott, Jr., The Twilight of the Cavalry, University Press of Kansas, Lawrence, Kansas, 1989, 167.
127. General George S. Patton, Jr., War As I Knew It, Boston: Houghton Mifflin, 1947.
128. George F. Howe, The Battle History of the 1st Armored Division, "Old Ironsides." Washington, D.C: Combat Forces Press 1954, 39.
129. Col. David Hackworth, About Face, Simon and Schuster, New York 1989, 144.
130. Ibid., 420.

131. James W. England, Long Range Patrol Operations: Reconnaissance, Combat, and Special Operations. Boulder, CO: Paladin Press, 1987.
132. V.K. Triandafillov, Nature of the Operations of Modern Armies. Moscow-Leningrad, 1929. Translated by Russian-English Translations Inc.
133. J.F.C. Fuller, Armored Warfare. Harrisburg, PA: The Military Service Publishing Co., 1943.
134. Richard E. Simkin, Mechanized Infantry. New York: Brasseys Publishers, 1980, 372.
135. 10 Vehicle Scout Platoon TO&E 17366L200, Directorate of Combat Developments, Fort Knox, Kentucky, 17 June 1990, 13.
136. U.S. Army Armor Center, Armored Gun System Briefing, Directorate of Combat Developments, Fort Knox, Kentucky, May 1991, Briefing Slides 4 - 6.
137. Interview with CPT Ken Shwartz, Directorate of Combat Developments, Fort Knox, Kentucky, December, 1991.
138. Ibid.
139. Colonel Donald L. Smart, Disposition Form "Review of Brigade Scout", Directorate of Combat Developments, Fort Knox, Kentucky, 3 June 1988, 1-5.
140. Captain Steven J. Mains, Information Paper, "Justification of Brigade Scout Platoon", Directorate of Combat Developments, Fort Knox, Kentucky, 4 Jan 1990, 3.
141. U.S. Army, "Draft Concept Statement for Brigade Scouts", U.S. Army Armor School, Fort Knox, Kentucky, 20 November 1991, 3.
142. Brigadier General William J. Mullen III and Brigadier General Horace G. Taylor, "Preface," U.S. Army, Center for Army Lessons Learned, CALL Compendium: Heavy Forces (3 vols., 1988-1989) I, i.
143. Ibid., 14.
144. Center for Army Lessons Learned Bulletin 1-86, "About this Publication," (July 1986), i.

145. Brigadier General William J. Mullen III and Brigadier General Horace G. Taylor, "Preface," U.S. Army, Center for Army Lessons Learned, CALL Compendium: Heavy Forces (3 vols., 1988-1989) I, i.
146. U.S. Army, Field Manual 71-100, Division Operations, Fort Leavenworth Kansas: U.S Army Command and General Staff College 1981, 21.
147. "National Training Center Observation Report 1657," Heavy Brigade Training Rotation Mar 86 (Computerized Observation Report Printout, U.S. Army CALL 1988), 18.
148. U.S. Army, Center for Army Lessons Learned, CALL Compendium: Heavy Forces (3 Vols 1988-1989)I, 3.
149. Ibid., 3.
150. Ibid.
151. Ibid., 4.
152. Ibid., 5.
153. Ibid., 6.
154. Ibid., 7.
155. U.S. Army Center for Army Lessons Learned, National Training Center Observer Report #891 (Echelon Brigade), 5 November 1985, 10.
156. U.S. Army, National Training Center Lessons Learned, U.S. Army Combined Arms Training Activity, Fort Leavenworth, Kansas, May 1990, 23.
157. Colonel Bruce C. Clark, First Infantry Division AAR 89-5 Memo through Commanding General First Infantry Division to Commanding General III U.S. Corps, Fort Hood, 28 March 1989, 2.
158. Ibid., 4.
159. First Brigade, Fifth Infantry Division 89-1 Memo through Commanding General Infantry Division to Commanding General III U.S. Corps, Fort Hood, 23 Jan 89, 1.
160. U.S. Army, Center for Army Lessons Learned, CALL Compendium: Heavy Forces 3 Vols. 1988-1989 I, 37.

161. Major John S. Chappell, Security Operations: Current NET Value of NTC Lessons Learned for the Divisional Ground Maneuver Brigade." School of Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas 1988, 36.
162. Colonel William Annan, NTC AAR First Brigade, Fourth Infantry Division, Fort Carson, CO. 6 Feb 89.
163. Colonel Bruce C. Clark, NTC AAR First Brigade, First Infantry Division, Fort Riley, Kansas, 28 Mar 89, 1-B.
164. Ibid., 1-C.
165. Colonel William D. Nash, "Brigade Scout Platoon", Memorandum for Commanding General, 3rd Armored Division, Headquarters, 1st Brigade, 3rd Armored Division, 26 February 1990, 4.
166. Desert Campaign AAR Executive Summary and Historical Narrative, Enclosure 3, Briefing Slide # 20, 18 April 1991.
167. Interview with Major Jeff Brandl, Force Development Office, Combined Arms Activity, Fort Leavenworth, Kansas, 5 December 1991.

## CHAPTER 3

### METHODOLOGY

In peace, as a wise man, he should make suitable preparation for war.<sup>1</sup>

Horace

#### General

Methodology establishes the technique for analysis of the research question, Does The Heavy Maneuver Brigade Commander Need an Organic Reconnaissance/Security Organization? Methodology will provide a process to answer the question and form the basis for the conclusion and recommendations found in chapter five.

The impact of this question on today's brigade is that commanders reduce combat power by using internal assets as a short-term fix. This does not resolve the issue in all units and should be investigated further. A reconnaissance/security organization at brigade level provides the brigade commander with the ability to "see" the battlefield.

This chapter provides discussion of the methodology used in pinpointing a gap in doctrinal requirements and the brigade's ability to meet those requirements with available organic elements. The battlefield framework outlined in

TRADOC PAM 11-9 provides the starting point for comparing the reconnaissance mission requirements of the brigade against the mission profile using the concept based requirements system (CBRS). Once a comparison of the profile to the parent unit requirements is made, one can see that a shortfall exists in the layering of reconnaissance assets from battalion to corps level. Doctrine states that a requirement does exist for the brigade, but the brigade does not currently have an asset to perform this role.

#### Concept Based Requirements System

The CBRS is used by TRADOC to identify and prioritize Army warfighting requirements for doctrine, training, leader development, organizations, and material.<sup>2</sup>

CBRS is a decision making methodology that helps TRADOC execute its mission as Architect of the Future. It supports Headquarters, Department of the Army's (HQDA) efforts to plan and program for the future Army. TRADOC assists HQDA in executing this function by recommending a comprehensive, constrained strategy to improve capabilities.<sup>3</sup>

Based on this description of the system, CBRS constitutes a key Army decision making process.<sup>4</sup> Key members in this process are the integrating centers and schools which are tasked by TRADOC to provide a concept development effort geared toward particular objectives.<sup>5</sup>

Integrating centers are given guidance from Headquarters, Department of the Army (HQDA) in the form of concepts, which are azimuths for the future Army, and which serve as the identification of needs and the prioritization of solutions. Concepts differ from doctrine in that a concept identifies required, but not yet attained, capabilities for the future, whereas doctrine reflects an application of attained capabilities for fighting on today's battlefield.<sup>6</sup>

Integrating centers expand these concepts into battlefield functional mission area concepts (BFMA) and capability packages. These packages provide detailed descriptions of how to fight on the future battlefield, and are the focus for the development of operational concepts.

Operational concepts consist of branch concepts and system concepts. A branch concept describes required capabilities within a specific branch.<sup>7</sup> This is the branch analysis, capabilities issues solution to branch sets and modernization plans. A system concept provides the basis for development of the plan for the integration of a new system into the force, and for the operational employment of that system.

After the analysis is completed branches must then prioritize this list. TRADOC and HQDA will then take the prioritized lists, and with the TRADOC Analysis Center

(TRAC), support CBRS with studies and analyses that pertain to the entire force.

Once the process is completed, a draft battlefield development plan (BDP) is formulated. A General Officer Steering Committee (GOSC) reviews and modifies the BDP draft to ensure it accurately describes the needs of the future Army. Upon approval from CG, TRADOC the BDP becomes TRADOC's assessment of prioritized warfighting needs for the future Army.<sup>8</sup>

This system has both strengths and weaknesses. One of the weakness of this system is that personalities get involved and branches engage in infighting for "pet systems". Ultimately each integrating center will not get all the assets it claims it needs. A second weakness of the system is that integrating center commanders change every two years and the BDP lists change as the commanders change. One of the strengths of this system is that it allows the integrating centers to satellite off of one another to get more support for much needed systems that support the needs of more than one center.

Research indicates a gap exists in filling the needs of the brigade intelligence requirements, and that a reconnaissance element will fill a gap in the current reconnaissance system. This gap was addressed in the GOSC conducted in 1988 by General Thurman<sup>12</sup> which addressed

this problem and tasked the Armor Center to find the solution.

Additionally, by comparing the analysis of reconnaissance in past conflicts, to current AirLand Battle doctrinal requirements, similar characteristics can be illustrated for missions conducted at the NTC. By comparing mission and doctrinal requirements, against the mission profile of the unit, conclusions can be drawn from the information provided.

After conducting a thorough review of AirLand Battle doctrine in relation to brigade operations, a comparison can be made as to whether or not the organization could be enhanced by adding additional assets to perform reconnaissance and security missions for the brigade commander.

The NTC after-action reports (AARs) provide many commander comments concerning these missions and the success of the brigade in the desert. Opposing Force (OPFOR) commanders and staff provide some insight to this dilemma from an enemy perspective.

#### Methodology

In May of 1988, the Combined Arms Center Development Activity (CACDA)<sup>10</sup> tasked the Armor School to develop a Cavalry Master Plan for Cavalry assets at corps and below.<sup>11</sup> The Armor School was to recommend the mix of cavalry and scout organizations at all levels of command.

Resource impacts would be determined for each recommendation.<sup>12</sup>

The Cavalry/Reconnaissance Net Assessment - Master Plan was Fort Knox's response to the CACDA tasking. Fort Knox, Directorate of Combat Developments, conducted an extensive review of studies, historical investigations, and field experience to form a database for the brigade reconnaissance element assessment.<sup>13</sup> In assessing the missions, requirements, and deficiencies for the element they used mission profile, organization, Division 86 Study, Subject Matter Experts (SME's) and World War II Combat Commanders.

Using the CBRS process, Fort Knox prioritized the brigade reconnaissance asset as its fifth priority, in a "would like to have" category, along with adding tanks to the divisional cavalry squadron.<sup>14</sup> At the time, Fort Knox's top priority was to add a troop to each divisional cavalry squadron.<sup>15</sup> In determining their requirements, Fort Knox stated that the driving factor to implement fixes was personnel.<sup>16</sup>

This study will use the CBRS process and battlefield framework analyzing the brigade reconnaissance requirement to assess capabilities according to the mission profile.(See Fig. 12) Once the capabilities are assessed, deficiencies can be noted that form the basis for recommending feasible solutions. The solutions will impact the

elements of the CBRS process, doctrine, training, organization and material.

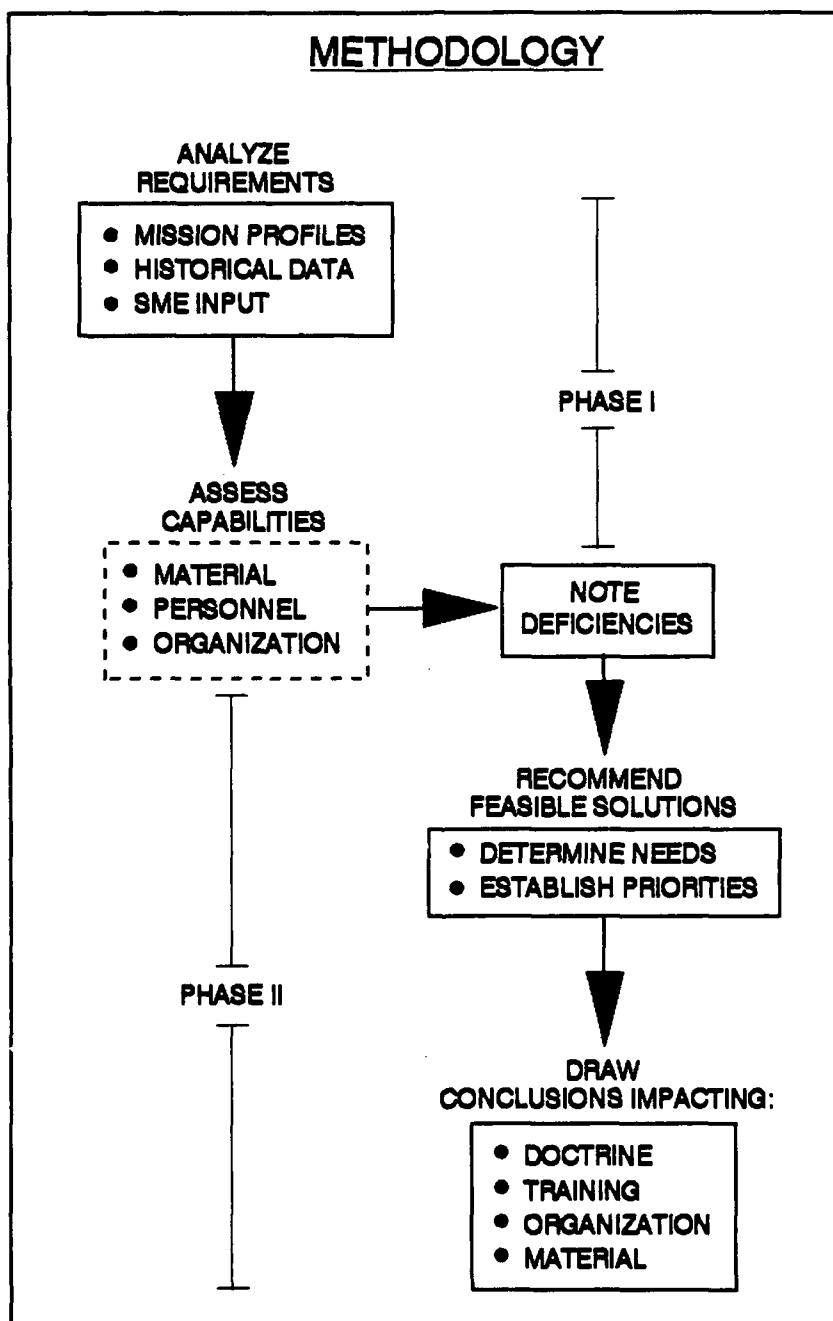


Fig. 12. Methodology.

Adopting the Armor school approach to conducting this net assessment involved, first, addressing the doctrinal missions and needs for reconnaissance for commanders from battalion through corps in both heavy and light forces. The present organization was assessed concerning its capability to meet the missions and needs. Since there is no current organization an obvious gap developed between doctrinal requirements and mission capability.

When the current organization was found deficient in capability, doctrine, training, organizational and materiel corrections were proposed to fix the deficiency.

The Phase I (Net Assessment) portion of the assessment was done in an unconstrained resource environment. The database for assessment included previously conducted studies, evaluations, National Training Center rotations, results of tests and exercises, and comments from past and present commanders. Once the Phase I Net Assessment was completed, Phase II (Master Plan) was conducted. In Phase II, the resource constraints were applied to Phase I results and priorities established for implementation of fixes.<sup>17</sup>

### Battlefield Blueprint

In creating a blueprint of the battlefield, this study looked at the tasks required of reconnaissance and security units from battalion to corps and determined whether the present dedicated reconnaissance elements were satisfactorily meeting the reconnaissance needs of the commander.

The TRADOC Blueprint of the Battlefield provided ten battlefield operating systems of tasks which directly related to scout and cavalry organizations.<sup>18</sup> This blueprint provided a panoramic view of the operating systems from battalion to corps. (See Fig. 13) The gap and missions still exist with the brigade organization. These figures provide the framework for evaluation tools used in chapter four.

BLUEPRINT OF THE BATTLEFIELD

BASIC OPERATING SYSTEM						
LEVEL	ATTACK TARGETS	EMPLOY SURFACE TO AIR WEAPONS	COLLECT THREAT INFO	COLLECT PHYSICAL ENVIRONMENT INFO	LOCATE TARGETS	MARK OBSTACLES
BATTALION						
BRIGADE						
	LIGHT					
	HEAVY					
DIVISION						
	LIGHT					
	HEAVY					
CORPS						
	LIGHT					
	HEAVY					

The Armor Center immediately addressed the problems with the scout platoons at battalion level by changing the TO&E to the new ten HMMWV configuration.<sup>19</sup> These changes were brought about by the Scout Platoon Concept and Evaluation Plan.

#### Mission Capabilities/Deficiencies

Once the relative battlefield operating systems tasks are assessed at each echelon from battalion through corps, a detailed analysis of the commander's present reconnaissance and security needs, and the capability of his organic scout and cavalry organizations to adequately accomplish those missions is conducted.<sup>20</sup> These needs are usually transmitted to the unit as missions for the organization to perform.

Figures 14 and 15 depict all of the missions that scout and cavalry organizations perform for their respective commanders and summarizes these unit requirements in performing these missions. These operations formed the mission profile for the organization. The results are supported by the detailed assessment by respective echelon for heavy forces.<sup>21</sup>

## MISSION CAPABILITIES/DEFICIENCIES

FIG. 14.

## MISSION CAPABILITIES/DEFICIENCIES

ASSEMBLY AREAS	ROAD MARCHES	PASSAGE OF LINES	RESTORE CMD AND CONTROL	OTHER OPERATIONS			STRAGGLER CONTROL	CHEM DET RAD MONITOR & SURVEY	TACTICAL COMBAT FORCE
				FACILITATE MOVEMENT	AREA DAMAGE CONTROL	MOVE CP			
BATTALION									
BRIGADE									
LIGHT									
HEAVY									
DMITION									
LIGHT									
HEAVY									
CORPS									
LIGHT									
HEAVY									

FIG. 15.

### Mission Profile

It is paramount that this study address the mission profile/operational summary of the reconnaissance/security organization.(See Table 2.) These are the missions that the brigade reconnaissance element would perform to support the brigade commander. A brigade organization would unburden the already overtasked battalion scout platoon and provide significant command and control assistance to the brigade commander.<sup>22</sup> The depth and width of the brigade sector, and the time needed to react to enemy formations, demand that the brigade commander have an organization able to provide him with timely information in his area of operations and his area of interest.

TABLE 2

### BRIGADE RECONNAISSANCE ELEMENT - MISSION PROFILE<sup>23</sup>

<u>RECONNAISSANCE</u>	<u>SECURITY</u>	<u>OTHER OPERATIONS</u>
ROUTE	SCREEN	CONVOY ESCORT
ZONE	GUARD*	RESTORE COMMAND AND CONTROL
AREA		ASSIST W/COMMAND POST DISPLACEMENT FACILITATE MOVEMENT OF BRIGADE STRAGGLER CONTROL CONDUCT LIAISON QUARTERING PARTY EXTENDED PATROLLING CHEMICAL DETECTION/ RECONNAISSANCE RADIOLOGICAL MONITOR & SURVEY PASSAGE OF LINES

\* WITH AUGMENTATION

The heavy separate brigade's organic troop is also assigned to conduct reconnaissance and security missions. This troop has the same mission profile as depicted in Table 2 above.<sup>24</sup> The 194th Armored Brigade and the 197th Infantry Brigade (Mechanized) are important elements of force projection contingency plans, worldwide.

They are unique and pertinent to this study because of the brigade's organic armored cavalry troop dedicated to the brigade commander's reconnaissance needs. The cavalry troop is organized and equipped identically to those of the armored cavalry regiment.<sup>25</sup> This troop is part of a fixed brigade base that includes artillery, engineer, military intelligence, signal, and CSS elements, to which up to five maneuver battalions can be attached.<sup>26</sup> The maneuver battalions bring their own scout platoons which complement the brigade troop's capabilities and provide reconnaissance redundancy.<sup>27</sup>

Why were these separate brigades provided with a reconnaissance asset, while divisional brigades were not? The Army of Excellence study group stated the divisional brigade had the divisional cavalry squadron to provide security. While the separate brigade did not have the divisional cavalry squadron, it was organized with a troop to provide its reconnaissance and security requirements. Another reason the separate brigade was provided with the troop, is because by nature the separate brigade is

designed to be deployed separately from divisions. The separate brigade can be attached or OPCON to a division. The divisional brigades do not have this asset and must task the battalions assigned to provide forces for the reconnaissance and security role.<sup>28</sup>

#### History of Past Studies

In one study, the Armor Center, Ft. Knox, proposed solutions to the issue of determining the organizational requirements to provide reconnaissance and security to the force.

The brigade reconnaissance element needs to be a troop size element, due to the width, depth, and time factors relevant to the brigade commander. The fixes to the brigade reconnaissance troop are parallel to those of the battalion scout platoon with a few exceptions. Doctrine allows for the employment of a brigade reconnaissance troop. However, a firm operational concept must be developed. Updated training must be expanded to include the Pre-Command Course. Organizational changes must include both heavy and light troops. Material changes are the same as the battalion scout platoons. A proposed troop organization of 115 men for a heavy troop and 61 men for a light troop are recommended. An interim platoon would provide an initial reconnaissance element dedicated to the brigade commander. This platoon would consist of 38 men in the heavy platoon, and 30 men in the light platoon.<sup>29</sup>

The doctrinal requirements were correct. There were several points missing in this proposal. The training fixes were implemented (at all levels of course

instruction) by Ft. Knox in February, 1989 and have been a success.<sup>30</sup> The problems exist in the organizational issues. The proposed one hundred fifteen man troop has no support element for fueling, or arming, and contains no assets, such as a supply sergeant, personnel to operate a command post or support the commander.(See Fig. 16.) A remote sensor platoon is used to support the brigade commander, but no explanation is given as to how it integrates with the troop. Thermal viewers and binoculars are fine for material fixes, but are substantially lacking in allowing the unit to identify and target enemy forces if necessary.

PROPOSED BRIGADE RECONNAISSANCE TROOP

ORGANIZATION (HEAVY BRIGADE)

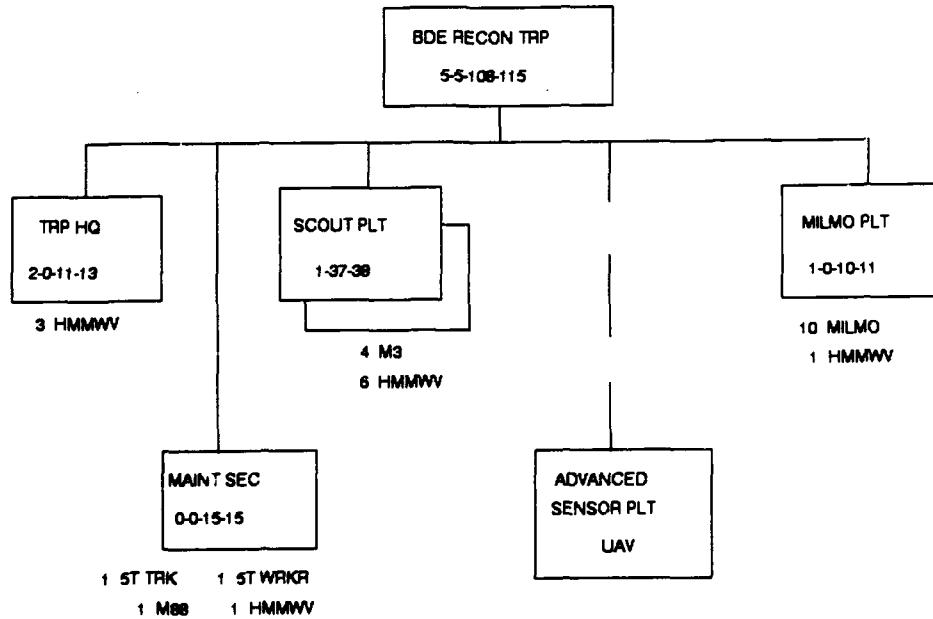


Fig. 16. Proposed heavy Brigade reconnaissance troop.

Since no organization currently exists at the brigade level, historical data from 1942 organizations to the current usage of scout platoons at the battalion level provides information on doctrinal use of this element. The doctrine basis for the methodology used in this study begins with FM 100-5, Operations and AirLand Battle doctrine. Force structure will be addressed in chapter four and consists of suggested heavy force reconnaissance and security unit designs for a ground maneuver brigade. The NTC after-action reports provide a forum for the discussion of a need for the proposed organization to assist the brigade commander.

Information obtained from reviewed studies focused on either the reconnaissance or the security requirement for this organization.<sup>31</sup> This thesis will make use of all information to investigate if a need exists for the proposed organization at the brigade level to perform both of these important roles.

## CHAPTER 3

### ENDNOTES

1. Gen. Lucian K. Truscott Jr., The Twilight of the U.S. Cavalry, Life in the Old Army, 1917-1942, 167.
2. U.S. Army, TRADOC Regulation 11-15, Army Programs -- Concept Based Requirements System (1989), 1.
3. Ibid., 1.
4. Ibid., 3.
5. Ibid., 5.
6. Ibid.
7. Ibid.
8. Ibid., 7.
9. Gen. Maxwell R. Thurman, Tasking for CAC, Reconnaissance, Surveillance and Counter-Reconnaissance Assessment. Fort Leavenworth, Kansas, U.S. Army Combined Arms Center, 1988
10. Ibid.
11. U.S. Army, Cavalry/Reconnaissance Net Assessment - Master Plan (Fort Knox, Kentucky: U.S. Army Armor School, 1988), 1-8.
12. Ibid., 1-1.
13. Ibid., 2-17.
14. Ibid., 1-7.
15. Ibid., 1-1.
16. Ibid., 2-5.
17. Ibid., 2-6
18. U.S. Army, TRADOC Pamphlet 11-9, Blueprint of the Battlefield Chart
19. U.S. Army Armor School, 10 HMMWV Scout Platoon Study, 1988

20. U.S. Army, Cavalry/Reconnaissance Net Assessment - Master Plan (Fort Knox, Kentucky: U.S. Army Armor School, 1988), 1-6.
21. Ibid.
22. Ibid., 2-17.
23. U.S. Army, Field Manual 17-97, Armored Cavalry Troop, 1988, 10.
23. Ibid.
24. U.S. Army, Cavalry/Reconnaissance Net Assessment - Master Plan (Fort Knox, Kentucky: U.S. Army Armor School, 1988), 2-17.
25. Ibid., 2-21.
26. U.S. Army, Field Manual 71-3, Armored and Mechanized Infantry Brigade, 3-8.
27. U.S. Army, Cavalry/Reconnaissance Net Assessment - Master Plan (Fort Knox, Kentucky: U.S. Army Armor School, 1988), 2-22.
28. Directorate of Training and Doctrine (DOTD) Briefing to the Deputy Commandant, Fort Knox, Mar 1990
29. Ibid.
30. U.S. Army, Cavalry/Reconnaissance Net Assessment - Master Plan (Fort Knox, Kentucky: U.S. Army Armor School, 1988), 2-15.
31. Ibid., 2-9.

## CHAPTER 4

### ANALYSIS

Therefore, determine the enemy's plans and you will know which strategy will be successful and which will not. Agitate him and ascertain the pattern of his movement. Determine his dispositions and so ascertain the field of battle. Probe him and learn where his strength is abundant and where deficient.<sup>1</sup>

Sun Tzu

#### Background

The reconnaissance platoon has been the answer to the organizational issue in most of the studies completed. The platoon provided the solution because of its low cost in personnel and equipment. In analyzing the issue inherent in this study, the CBRS process was used to compare the mission profile against the parent unit requirements and highlight a shortfall in the layering effect of reconnaissance from battalion to corps level.

Ever since the beginning of mechanized forces, the solution to the proper organization for reconnaissance and security forces has been under a watchful eye by many boards and general officer study groups. Unfortunately the Army is still wrestling with this problem. In analyzing the research, a platoon was recommended by at

least five of the studies. One fact evolved from these studies is that no front end analysis was conducted by these studies from 1942 to the present.

The mechanized scout platoon has recorded fifty years of history and undergone fourteen Table of Organization and Equipment (TO&E) changes.

These changes resulted in the evolution of the platoon's mission from stealthy reconnaissance to security, and back to stealthy reconnaissance. The organization's mission evolved from primarily scouting to cavalry to fighting cavalry and back again to primarily scouting. These evolutionary changes included increasing the protection level of the reconnaissance assets by changing the platoon vehicles from all wheels to heavy tracks. The Army is currently configuring the scout platoon at task force level back to an all wheel configuration.

#### Doctrine

The doctrinal based security mission requirements are noted in Table 3. Table 3 contains those security mission requirements that the divisional ground maneuver brigade can expect to accomplish for itself as well as those it can expect to be tasked to perform by higher echelons of command. Internal taskings are those actions deemed necessary by the brigade for its own protection during the offense, defense, or movement. The external

taskings generate from the division or corps and are conducted as part of a larger operation.

TABLE 3. Brigade Security Mission Requirements<sup>2</sup>

<u>Task</u>	<u>Internal</u>	<u>External</u>
Reconnaissance	X*	
Screen	X*	X**
Guard	X*	X**
Cover		X**
Rear Area Security	X	X**
Counter-reconnaissance	X*	X**
Counter-Attack	X	X**
Economy of Force	X*	X**

X - denotes mission requirement

The single asterisk denotes those tasks which the brigade has limited capability to perform. No organic asset exists at this echelon to accomplish these specific mission requirements.<sup>3</sup> Accomplishment of these tasks requires the brigade to commit a large portion of its own organic combat units. This commitment would significantly reduce the combat power that could be brought to bear. Every unit must estimate the risk involved in performing the assigned mission, but the addition of a reconnaissance /security organization at the brigade reduces this risk.

The double asterisk denotes those tasks which require part or all of the brigade's organic combat units

to accomplish. These operations may also require the brigade to be augmented by assets external to the brigade.

#### Layering Effect

Current doctrine supports the principal of redundancy of systems throughout the battlefield and forms the basis for the layering effect of reconnaissance and security assets as they are arrayed on the battlefield.

### RECONNAISSANCE LAYERING EFFECT

#### BATTLEFIELD LAYERING EFFECT

<u>ECHELON OF COMMAND</u>	<u>RECONNAISSANCE UNIT</u>
CORPS	LONG RANGE SURVEILLANCE UNIT ARMORED CAVALRY REGIMENT
DIVISION	LONG RANGE SURVEILLANCE DETACHMENT DIVISION CAVALRY SQUADRON
BRIGADE	-----
BATTALION	SCOUT PLATOON

Fig. 17. Reconnaissance Layering Effect.

Corps is the highest level of command at the tactical level, followed by the division, brigade and battalion. Our reconnaissance assets are arrayed to provide an intelligence picture and to track the enemy at every level except brigade. Therefore a gap exists at the brigade level in providing the commander with fresh intelligence information to command and control his task forces. Figure 18 shows the gap in reconnaissance forces and the communications nets that they report on.

Level	Units Available	Normal Reporting Procedure
CORPS	LRSU ACR	Reports on MI Net Report on Corps Cmd Net
Division	LRSD DIV Cav Sqn	Reports on Div MI Net Reports on Div Cmd Net
Brigade		
Battalion	Scout Platoon	Reports on S-2 Net

Fig. 18. Layering Effect and Reporting Procedure.

This gap effects the very heart of our combat power within the division. The brigade commander must rely on other sources for his intelligence picture under our current system. The system has many assets to provide information, but analyzed data is usually provided from the division or corps. There are very few direct downlinks for this information at the brigade command post. This system does not provide the brigade

commander with enough reaction time to effect the maneuver of his battalions.

Brigade commanders subjected to the "NTC Battlefield", emphatically state that a reconnaissance/ security element is needed at the brigade level.

#### Battlefield Blueprint

The following pages show the extensive research conducted on how reconnaissance assets at the tactical levels of command perform the missions required for their parent organizations.

The purpose of the figures is to show the correlation of mission requirements with the different levels of command and the inability of its organic reconnaissance assets to perform missions in support of the parent organization.

The layering of reconnaissance assets across the depth of the battlefield indicates a gap in the assets organic to all of the key organizations. Therefore, there is a deficiency in our reconnaissance redundancy.

The Blueprint of the Battlefield comes from TRADOC PAM 11-9 and lists the basic operating systems and tasks that the reconnaissance element is required to perform.

This blueprint is laid out in Figure 19, on the next page. Across the top of the figure is a list of the basic operating systems that reconnaissance and security elements

are tasked to perform. The left column contains the different levels of command from battalion to corps. The "X"s note that the unit has a mission requirement for that operating system. There are deficiencies noted across the board at both the battalion and brigade levels.

## BLUEPRINT OF THE BATTLEFIELD

LEVEL	ATTACK TARGETS	CONDUCT SURFACE ATTACK	EMPLOY SURFACE TO AIR WEAPONS	BASIC OPERATING SYSTEM					
				COLLECT THREAT INFO	COLLECT PHYSICAL ENVIRONMENT INFO	COLLECT TARGET INFO	LOCATE TARGETS	MARK OBSTACLES	USE PROTECTIVE EQUIPMENT
BATTALION				(X)	(X)	(X)	(X)	(X)	
BRIGADE				(X)	(X)	(X)	(X)	(X)	
LIGHT				(X)	(X)	(X)	(X)	(X)	
HEAVY									
DIVISION									(X)*
LIGHT	(X)	(X)	(X)	(X)*	(X)	X	(X)	(X)	(X)*
HEAVY	(X)	X	(X)	(X)*	(X)	X	(X)	(X)	(X)*
CORPS									
LIGHT	(X)	X	X	X	X*	(X)	(X)	(X)	X
HEAVY	X								X

Legend: X MISSION ( ) GROUND DEFICIENCY • AIR DEFICIENCY (•) AIR AND GROUND DEFICIENCY

FIG. 19. BluePrint with deficiencies.

Mission deficiencies and capabilities (see fig. 20) indicates that the parent unit levels of command and the traditional roles reconnaissance units perform, reconnaissance and security. These figures denote the deficiencies in other mission categories discussed earlier in this study.

The missions are listed across the top, with the unit levels listed down the left column. Missions are denoted with "X"s and ground deficiencies noted with "()s. No assets are available at the brigade to perform these missions which doctrine requires. Deficiencies are noted in the spaces marked by "(X)"s, and clearly illustrate that a unit is required at the brigade to perform these missions.

## MISSION CAPABILITIES/DEFICIENCIES

LEVEL	RECONNAISSANCE			SECURITY			OFFENSE		DEFENSE	
	ROUTE	AREA	ZONE	SCREEN	GUARD	COVER	MOVEMENT TO CONTACT	HASTY ATTACK	DELAY	DEFEND
BATTALION	X	X	X	X	X	X				
BRIGADE										
LIGHT	X	X	X	X	X	X				
HEAVY	X	X	X	X	X	X				
DIVISION										
LIGHT	X*	X*	X*	X*	X*	X*	(X)*1	(X)*1	(X)*1	(X)*1
HEAVY	X*	X*	X*	X*	X*	X*	(X)*	(X)*	(X)*	(X)*
CORPS										
LIGHT	(X)*	(X)*	(X)*	(X)*	(X)*	(X)*	(X)*	(X)*	(X)*	(X)*
HEAVY	X*	X*	X*	X*	X*	X*	X*	X*	X*	X*

Legend: X MISSION ( ) GROUND DEFICIENCY • AIR DEFICIENCY (1) AIR AND GROUND DEFICIENCY  
 NOTE 1 DEFEND AND GUARD MISSIONS FOR LIGHT CAVALRY REQUIRE AUGMENTATION BY HEAVY FORCES  
 FIG 20

The mission deficiency and capability (figure 21) indicates that the other inherent missions the reconnaissance organization could be tasked to perform or assist other units to perform.

The missions listed in figure 21 provide the brigade with the ability to gather information, allowing the commander to see the battlefield. If the brigade had an organic reconnaissance and security organization, the brigade would be capable of enhancing its mission capabilities by freeing combat maneuver units to mass forces at the decisive time and place on the battlefield.

Using the same marking system discussed above this figure clearly illustrates that the brigade is lacking across the board. Looking at the brigade line in comparison with the other echelons, it appears that the brigade is in the worst condition as far as deficiencies noted.

## MISSION CAPABILITIES/DEFICIENCIES

LEVEL	ASSEMBLY AREAS	ROAD MARCHES	PASSAGE OF LINES	RESTORE CMD AND CONTROL	OTHER OPERATIONS				
					FACILITATE MOVEMENT	MOVE CP	STRAGGLER CONTROL	CHEM DET PAD MONITOR & SURVEY	TACTICAL COMBAT FORCE
BATTALION	X	X	X						
BRIGADE				(X)	(X)	(X)	(X)	(X)	(X)
LIGHT	(X)			(X)	(X)	(X)	(X)	(X)	(X)
HEAVY	(X)			(X)	(X)	(X)	(X)	(X)	(X)
DIVISION									
LIGHT				X	X	X			(X)*
HEAVY				X	X	X			(X)*
CORPS					(X)*	(X)*	(X)*	(X)*	(X)*
LIGHT					X*	X*	X*		
HEAVY									

Legend: X MISSION ( ) GROUND DEFICIENCY \* AIR DEFICIENCY ( )\* AIR AND GROUND DEFICIENCY  
 FIG. 21.

In February of 1987, the Armor school conducted an assessment of reconnaissance and counter-reconnaissance operations at the NTC through the use of a focused rotation. It was noted that shortfalls across the board in doctrine, training, organization, and material caused failures in reconnaissance.<sup>4</sup> Scouts who fight consistently were destroyed and lost to the commander for future missions. Scouts often failed because the enemy acquired them first and destroyed them before they could react.

The Rosenberger study reinforced the fact that fresh information about terrain and enemy, obtained by reconnaissance in advance of the main body, establishes the conditions for offensive success at the brigade and task force level.<sup>5</sup>

Without organic reconnaissance assets, brigades are unable to provide their subordinate units with fresh information about terrain and enemy. This is vital for the precise application of combat power and the synchronization of maneuver with supporting fires. At the NTC the brigade does not enjoy the benefit of having the division cavalry squadron or an armored cavalry regiment performing reconnaissance forward of its advance.

In offensive operations, the maneuver of a brigade or task force should be based on reconnaissance-pull. At the NTC, the task force axis of advance is normally

chosen before the operation begins, and it is seldom altered. Commanders push however many forces down the axis to make the attack successful. This results in the task force pitting its strength against the enemy strength sustaining devastating losses of personnel and material.

Effective reconnaissance is directly related to the time available for the scout platoon to get the job done. At the time, NTC scenarios only allowed the scout platoon about two hours to reconnoiter a frontage of eight to twelve kilometers wide and twelve to twenty kilometers deep before the task force crosses the line of departure. This frontage is too large for a doctrinal platoon to cover, and two hours too short a time to accomplish this task.<sup>6</sup>

OPFOR recon forces at the NTC are allowed twenty-four to thirty-six hours to reconnoiter a task force defensive sector.

There is hard evidence to show that the failure to perform reconnaissance will eventually cost the task force about two companies worth of men and equipment to obtain an equivalent amount of information about enemy strength and dispositions.<sup>7</sup> This is significant because the brigade commander may have used one company for his three hundred sixty degree security requirements. Combining these two figures he has lost one battalions worth of personnel and equipment.

Fire support planning is one of the most neglected aspects in reconnaissance operations. Immediate and responsive fire support from mortars or artillery is vital to the survival of reconnaissance assets and their ability to develop the situation. Doctrine does not describe procedures or methods for indirect fire support of reconnaissance operations at the brigade level and below. Few units train to provide it. One must keep in mind with Laser designators, the platoon is not limited or tied to the doctrinal range of 155mm howitzers. (If mortars are added to the proposed reconnaissance organization, the reconnaissance element can exceed the range of the brigade artillery without significant risk.)

The majority of commanders and S-3s do not personally direct or control the reconnaissance operation. The operation is usually left to the S-2, unsupported by the executive officer (XO) or the staff. The commander, S-3, fire support officer (FSO) and the XO should stay actively involved and supervise. Task forces which direct reconnaissance operations on the command net enjoy greater success.<sup>8</sup> Commander and S-3 involvement appears to be a training problem and not a doctrinal problem.

Reports, transmitted on the task force command net, submitted by the scout platoon, provide valuable information about the situation ahead.<sup>9</sup> Under this method the battalion commanders can receive "heads-up" information

concerning their particular area of responsibility. Scouts should report exactly what they see or don't see.

With the lack of a covering force to its front, the brigade seldom establishes a screen forward of task force positions. Each task force must assume responsibility for establishing a screen forward of its obstacle system and defensive positions.

Given the size, composition, and tactical employment of Soviet division and regimental reconnaissance units, the scout platoon alone cannot be expected to accomplish a screen mission.<sup>10</sup> It requires a two-team organization with distinct responsibilities - one to conduct surveillance and acquire enemy reconnaissance elements and another to close with and destroy them.

The defensive scenarios at the NTC present the task force with a problem. In the absence of a covering force, the task force is compelled to employ a company-sized force to effectively accomplish the screen mission. Yet the task force must reposition the majority of its force in the main battle area before the OPFOR regiment advances in order to concentrate sufficient combat power to win the battle.

There is little time for the withdrawing unit to prepare its defensive fighting positions. This operation is laden with risk and is difficult to synchronize; if completed too early, and enemy reconnaissance patrols penetrate the main battle area; if completed too late, the

force is not positioned or prepared to assist in destroying the enemy regiment.

Scouts who initiate direct fire engagements against enemy recon elements are usually acquired and destroyed by them or follow on forces of the OPFOR advanced guard. Some scout platoons, equipped with M-3s, have been successfully destroyed by enemy reconnaissance elements on their own. While scouts divert their attention to direct fire engagements in a battle for survival, they quit observing their designated areas, and other enemy recon elements slip through the unobserved areas. This is a major argument made by proponents for the stealth approach of reconnaissance and security.

Studies have recommended the brigade scout platoon be composed of eight or ten vehicles instead of six.<sup>11</sup> This point is significant because all of the studies conducted comparing unit size and mix confirmed that eight or ten vehicle platoons performed much better than the standard six vehicle platoon, no matter what the vehicle in which the platoons were mounted. The study also pointed out that stealth was very effective in gathering information.<sup>12</sup>

#### Training

Fort Knox addressed training changes including making changes to the current curriculum in the Armor

School for all of the officer courses. The Cavalry Leader and Scout Platoon Leader course were added to courses of instruction to train captains and lieutenants about scouting, reconnaissance and security roles.

The Pre-Command Course for battalion and brigade commanders added class discussion time to the curriculum emphasizing reconnaissance, security and the role the platoon plays in the battalion mission. This should improve the training shortfall of the commander not involved with the scout platoon.

#### Organization

Recent changes are being made to upgrade the current reconnaissance capability of the division. Tanks and an additional ground troop are being added to the divisional cavalry squadron. The 10 vehicle platoon mounted in HMMWVs has been approved for the battalion with the platoon. The concept has not been forwarded with the addition of military motorcycles (MILMOs). These changes will increase the divisions capability, but nothing has been done at the brigade level.

#### Materials

HMMWVs, hand held thermal viewers and additional binoculars have been added to the TO&E to increase the platoons ability to acquire the enemy. Other equipment

discussed earlier in this paper must be procured for the reconnaissance elements throughout the division to perform their mission effectively. The division reconnaissance and security assets must have a better acquisition capability than that of the units they support.

History has shown the American soldier is able to adapt well to the conditions of the battlefield quite well. Our Brigade commanders have risked the combat power of the brigade to create units for reconnaissance and security purposes since World War II. Colonel George Sloan the Regimental Commander of the 27th Infantry in Korea stated:

We decided we needed a specialized unit for the purpose of conducting patrols against enemy positions all along the regimental front, with the specific mission of taking prisoners as a means of gathering intelligence and information.<sup>13</sup>

If the trend continues for commanders to take the risk of degrading unit combat power by sending forces out of the main body to conduct security missions, then they also run the risk of losing the fight in the main battle area. This greatly effects the division mission and overall plan.

Reviewing NTC take home packets of over one hundred and fifty battles, provided data to compare performance with the results of so many studies recommending platoons as the fix to the problem.

Platoons only accomplished the mission 16 percent of the time.<sup>14</sup> The same problems reoccurred and no improvements were seen. Successful operations by the main body relied upon the success of the reconnaissance and counter-reconnaissance efforts of the scout platoon. This was confirmed in the Rosenberger Study conducted by the Armor School in 1987.<sup>15</sup>

Insufficient data was available to determine why the studies mentioned in this paper continued to conclude that a scout platoon was adequate for a brigade. How can this conclusion be made when NTC observations report that a platoon is not adequate to perform missions for the battalion?

Major Terry Wolff concluded his monogram with a recommendation of a 150 man reconnaissance company for the battalion. The company would consist of four platoons; two light platoon mounted in ten HMMWVs each and two heavy platoons mounted in three cavalry fighting vehicles (CFV) and two M-1 tanks. The main drawback of this organization is the number of personnel required. This organization may not be as large if we create a brigade organization and keep the battalion scouts in the ten HMMWV scout platoon with one officer and thirty enlisted personnel.

The rest of this chapter will address some sample organizations, determine the differences needed and explain advantages and disadvantages of each. An analysis of

different organizations is provided. Each unit is designed to support the mission profile/OMS. The unit may be a mix of several vehicles proved to be the most effective for this evaluation. The mix may be all tracked or all wheeled vehicles. Systems such as AGS will come into play in the equation and should provide for some interesting solutions to this problem. The organizations will use a mix of vehicles such as Military Motorcycles (MILMO), HMMWV (MK-19 and .50 cal), Bradley and the M-1 and AGS. The organizations could be commanded by officers armor or infantry who understand completely -- reconnaissance and security missions.

Eleven divisions were used as the base, organized with three brigades each. Thirty-three heavy brigades formed the baseline to determine the requirements for the number of personnel and vehicles.

#### Alternatives

The scout platoon as is suffers from several shortcomings when compared to the mission requirements of the brigade. The shortcomings are the size of the platoon, lack of sufficient dismounted reconnaissance capability, and deficiencies in the relative mobility of the platoon when compared to the task force.

The platoon's size is a problem, especially if the platoon must operate on a long-term continuous basis. The

platoon leader will have to rest crews and maintain vehicles to provide continuous surveillance.

There are several approaches to the subject of brigade scout organizations. One school of thought indicates that, for the missions which the unit can expect to encounter, the size of the organization requires something larger than a platoon. A second school of thought notes that the unit should be robust enough to fight for information if necessary; therefore tanks should be added to the organization no matter what the size. Still a third school states that stealth is all important with this organization and that armored vehicles do not lend themselves to this type of reconnaissance.

Based on mission requirements, all three schools of thought are valid. The Army must have an organization at the brigade level with some variant of strong mobile anti-armor capability (M-1 or Armor Gun System [AGS]) and that some stealth capability. This organization will need to be robust to fight, if necessary, to support the brigade commander's intent. Screen and guard are a matter of protection levels, in the security role, units often run into enemy security elements in the reconnaissance role, that have a tendency to produce a fire fight.

The complete lack of a reconnaissance organization at the brigade level, despite the doctrinal need for one, is the most significant ground reconnaissance shortcoming

in the heavy corps. The dependence of the brigade on its subordinate units or division for ground reconnaissance leaves a large gap in our ability to carry out doctrinal requirements.<sup>16</sup> Dismounted reconnaissance is also vitally important.

One advantage in providing the brigade with its own reconnaissance capability are primarily responsiveness and ability to optimize the reconnaissance organization in light of mission requirements. Another advantage is that a brigade reconnaissance asset gives the brigade commander the ability to see the battlefield. The disadvantages are the increased end strength requirements and training requirements. Equipment may not be an issue due to the downsizing of the current force structure.

The trend in the U.S. Army since the Second World War has been towards cavalry type organizations at division and corps. These organizations have been multi-mission type units, for which ground reconnaissance has been only one of several missions. Below division level, the trend has been towards reconnaissance organizations with limited combat capability.<sup>17</sup>

In actuality, analysis of units that provided adequate security and responsive intelligence at the NTC, show that at a given time during a battle one-third or more of the maneuver elements in a battalion were involved in

some form of reconnaissance and security tasks either for themselves or for other units in the battalion.<sup>18</sup>

#### Suggested Organizations

Based on the authors personnel experience, a sample of the proposed organizations is provided. Six organizations that meet the constraints and mission requirements for the brigade commander are provided. The six organizations will consist of various configurations of vehicle assets for the unit. The differences in each will be in equipment type and mix which affect deployability, survivability and personnel costs. The organizations are prioritized in order of most feasible to least feasible, focusing on reconnaissance and security capability and evaluation of personnel cost.

The first option is the consolidation of the scout platoons at brigade and adding a company command structure that would work for the brigade commander. This creates a gap in the reconnaissance assets that would effect the layering structure of reconnaissance within the division discussed earlier. The lowest level of the layering structure would not have its own asset. Some would contend that this does not really fix the problem. Most battalion commanders would not want to give up their scout platoon.

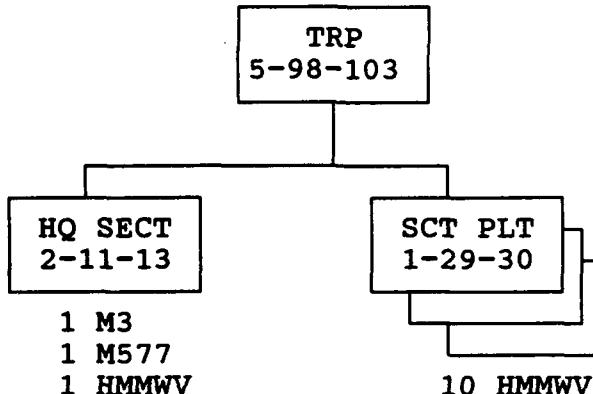


Fig. 22

\*The M577 in each organization is used for command and control of the unit. It will be equipped with FM and AM radios.

#### Personnel and Equipment Requirements

	PERSONNEL	HMMWV
ON HAND	0	0
REQUIRED	103	31
DELTA	13	1
TOTAL DELTA (X33)	429	33

Fig. 23. Personnel and Equipment Shortages

a. Personnel and Equipment - This unit is the most feasible in cost analysis and personnel requirements. It would allow the commander to move the scout platoons from the battalions and consolidate them at the brigade. It would also require a command headquarters be provided for and equipped with assets from outside the brigade.

b. Reconnaissance - This organization can perform stealthy reconnaissance and would enhance brigade operations. It is not capable of fighting for information

but could be able to defend itself unless it encountered heavy armor forces.

c. Security - The screen mission can be performed in this organization with an emphasis on stealth. This element would not be able to perform the guard mission, but should be able to coordinate the counter-reconnaissance battle. This organization is air deployable.

d. Evaluation - The shortages on equipment and personnel would be minimal at the brigade level because the personnel and most of the equipment would come from the battalion scout platoons. The delta of 13 personnel and equipment would fill out the headquarters section with its vehicles. This option is the most feasible because of the small personnel and equipment requirements. The brigade commander would need to provide some combat service support assets to support any of these organizations.

Organization two brings some stability to the reconnaissance and security organizations throughout the force. This is the same troop organization as the current regimental cavalry and separate brigade troop minus the mortar section enjoy. The ten vehicle scout platoon gives this organization more stealth capability and a wider frontage to operate on. Like the previous organization the M-3 will hinder the stealth aspects of reconnaissance efforts.

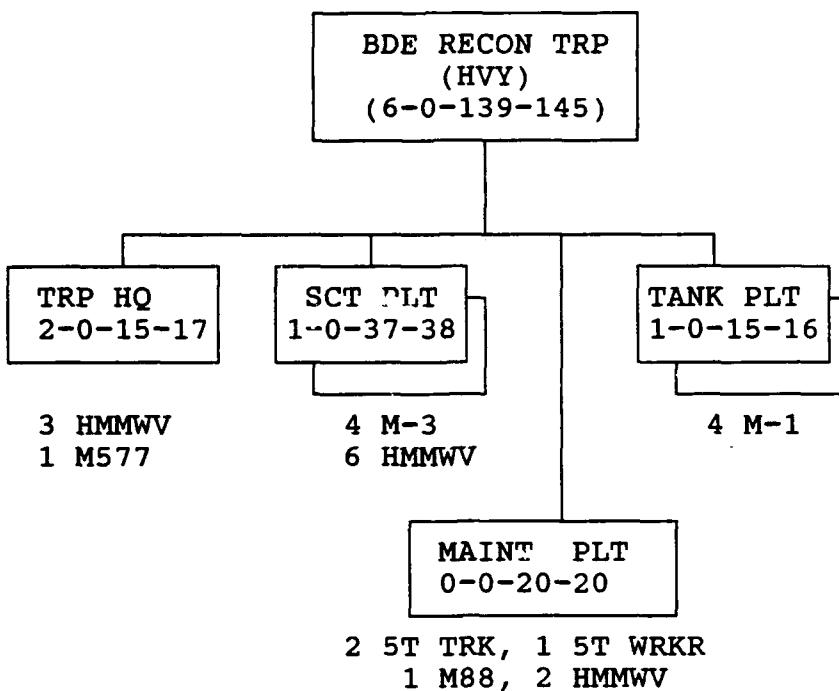


Fig. 24

Personnel and Equipment Requirements

	PERSONNEL	M3	HMMWV	M1
ON HAND	0	0	0	0
REQUIRED	145	8	17	8
DELTA	145	8	17	8
TOTAL DELTA (X33)	4785	264	561	264

Fig. 25. Personnel and Equipment shortages.

a. Personnel and Equipment - This unit requires a much heavier mix of equipment and therefore more personnel. It would also require a mix of wheeled and track mechanics.

b. Reconnaissance - This organization is capable of all of the reconnaissance missions and, if necessary, movement to contact. The unit can provide

security for itself and is robust enough to do several defensive missions if required. This option magnifies the combat power available to the brigade commander.

c. Security - Unlike the previous organization this element has the capability to perform counter-reconnaissance missions. This organization should be able to occupy ten observations posts in a screen mission while providing the tank platoons for counter-reconnaissance roles.

The one disadvantage of this element is its deployability. The M-3 and M-1 being outsized cargo require either C-5 or ships for deployment. Replacing the M-1 with the Armored Gun System (AGS)(C-130 deployable) would offer a solution to the deployability problem.

A force training problem would also be avoided. There are plans to make the 2nd Armored Cavalry Regiment a light cavalry regiment to support the XVIII Airborne Corps. AGS will play a role in the force structure of the regiment. If soldiers in the regiment and brigade reconnaissance organizations had the AGS in the troop, this would allow the Army personnel system opportunities to rotate these soldiers instead of staying in one location.

Organization three is balanced like option two, but takes into consideration new systems, like AGS. This organization will mirror the proposed light cavalry troop

in the new light cavalry regiment that is being formed out of the 2nd ACR.

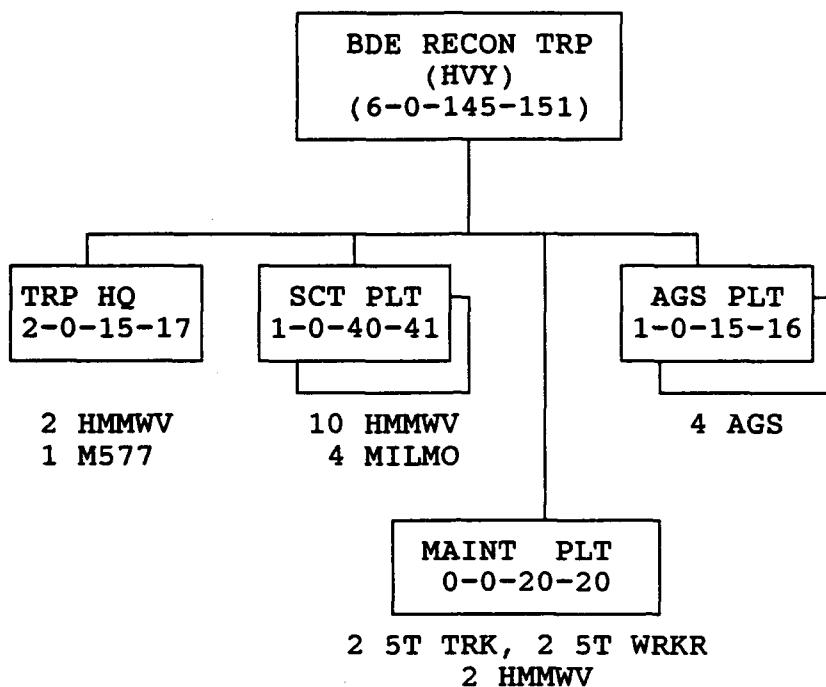


Fig. 26

Personnel and Equipment Requirements

	PERSONNEL	HMMWV	MTRCY	AGS
ON HAND	0	0	0	0
REQUIRED	151	24	8	8
DELTA	151	24	8	8
TOTAL DELTA (X33)	4983	792	264	264

Fig. 27 Personnel and Equipment Shortages.

a. Personnel and Equipment - This unit is predicated on the fielding of the AGS system. The personnel requirements are high and requirements for the unit to conduct dismounted operations may require the figure to remain high.

b. Reconnaissance - This organization is capable of performing all of the required reconnaissance missions. The military motorcycle and HMMWV will allow very stealthy reconnaissance to be performed. The element is able to fight for information if necessary.

c. Security - This element will be able to perform security missions including counter-reconnaissance. The AGS is currently in the developmental stages and if brought into the inventory will provide a viable alternative to the M-1.

d. The AGS will provide this element with the capability to deploy on C-130 aircraft. This flexibility provides the brigade commander with a viable combat or liaison force to be deployed before the rest of the brigade that can give the commander a first hand intelligence update once he arrives on station.

The disadvantage of this organization and the organizations that follow is the large personnel requirements needed to fill these organization at each brigade in the heavy division.

The next organization closely resembles the mixed platoons in the H-series Divisional Cavalry Squadron TO&E of the 1970's.

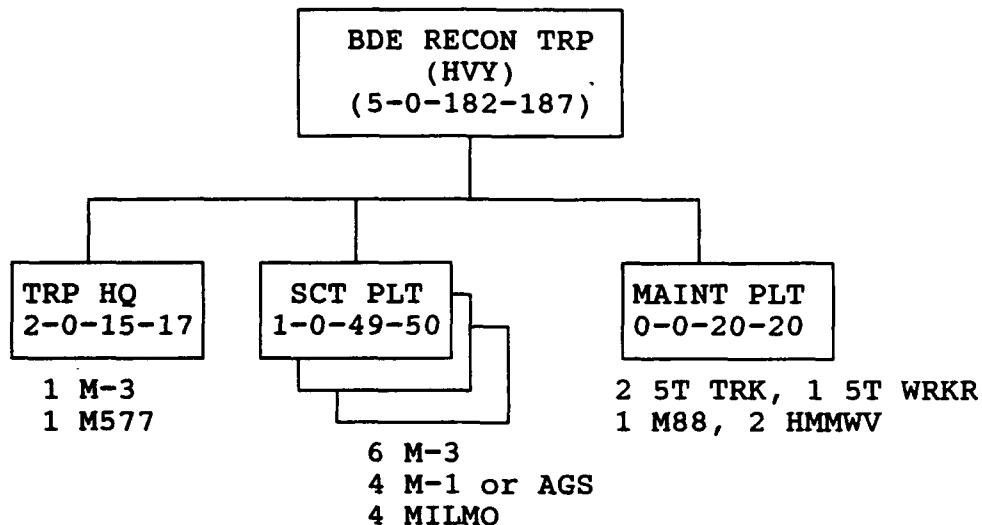


Fig. 28

Personnel and Equipment Requirements

	PERSONNEL	M3	MTRCY	M1/AGS
ON HAND	0	0	0	0
REQUIRED	187	19	12	12
DELTA	187	19	12	12
TOTAL DELTA (X33)	6171	627	396	396

Fig. 29 Personnel and Equipment Shortages.

a. Personnel and Equipment - This unit's existence must count on the development of the military motorcycle and the AGS. Personnel requirements are high and cannot be made up by the proposed billpayers in chapter five.

b. Reconnaissance - This element is organized to perform all types of reconnaissance missions including movement to contact. The reconnaissance missions will not stealthy due to the vehicle mix.

c. Security - This organization is very robust and can perform the counter-reconnaissance and economy of force roles very effectively. The element is capable of occupying twelve observation posts utilizing the motorcycles to augment the screen line.

d. Evaluation - This troop is not air deployable and is intensive in both personnel and equipment costs. AGS, if fielded will give the brigade a strategic deployment capability and the firepower to support the contingency force missions. The AGS is required to operate in diverse environments worldwide. It is expected to face a mixture of equipment including Soviet.

This mix of vehicles may cause a command and control problem within the platoon due to the number of platforms on the platoon net.

This organization will provide a brigade commander better capability than the current Divisional Cavalry Troop possesses.

The M1/AGS gives the platoon a high degree of security capability and gives the brigade commander a small economy-of-force company available for an array of missions.

Organization five is a Directorate of Combat Developments, U.S. Army Armor Center proposal sent to the field for comments.

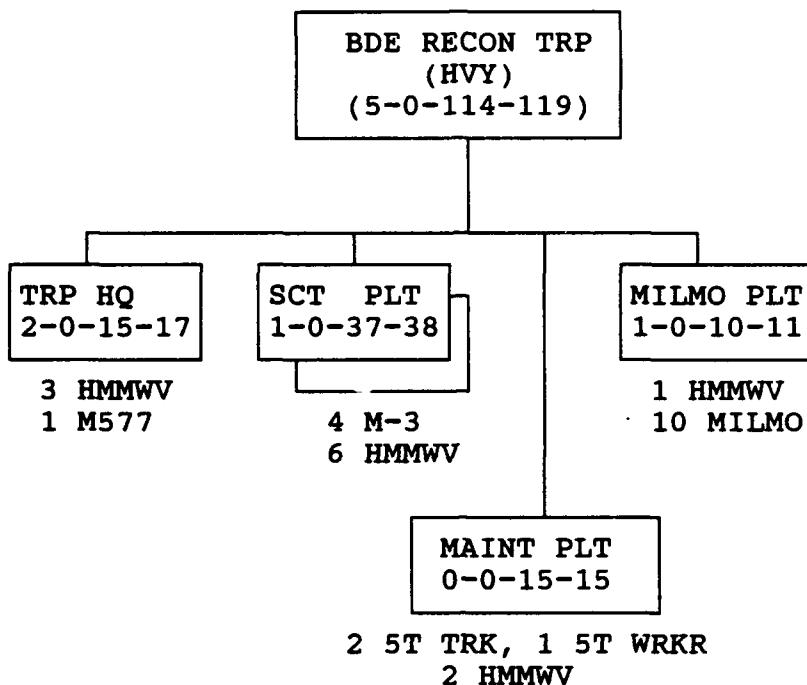


Fig. 30

Personnel and Equipment Requirements

	PERSONNEL	M3	HMMWV	MTRCLE
ON HAND	0	0	0	0
REQUIRED	119	8	18	10
DELTA	119	8	18	10
TOTAL DELTA (X33)	3927	264	594	330

Fig. 31 Personnel and Equipment Shortages.

a. **Personnel and Equipment** - This organization is not as much a strain on personnel requirements, but suffers from a unique problem. The problem stems from senior leader concerns about the safety of the military motorcycle. The motorcycle has shown a useful purpose in past history and testing, but the concerns about safe

operations continues to prejudice the decisions to purchase motorcycles.

b. Reconnaissance - This element will be able to perform route reconnaissance on four routes or axis of attack for the brigade. It will be able to perform all reconnaissance missions provided the enemy situation does not contain an armor heavy force. The M-3s would be used to overwatch the HMMWVs and motorcycles. Movement to contact would be a difficult mission for this element to perform. This element should be able to barely cover the brigade planning frontage of 15 kilometers.

c. Security - This element should be able to perform the screen mission, occupying up to twelve observation posts if it is not required to provide the base counter-reconnaissance element.

d. Evaluation - This organization is not very robust and must rely on stealth to perform its mission. This task will be very difficult with the vehicle profile of the M-3.

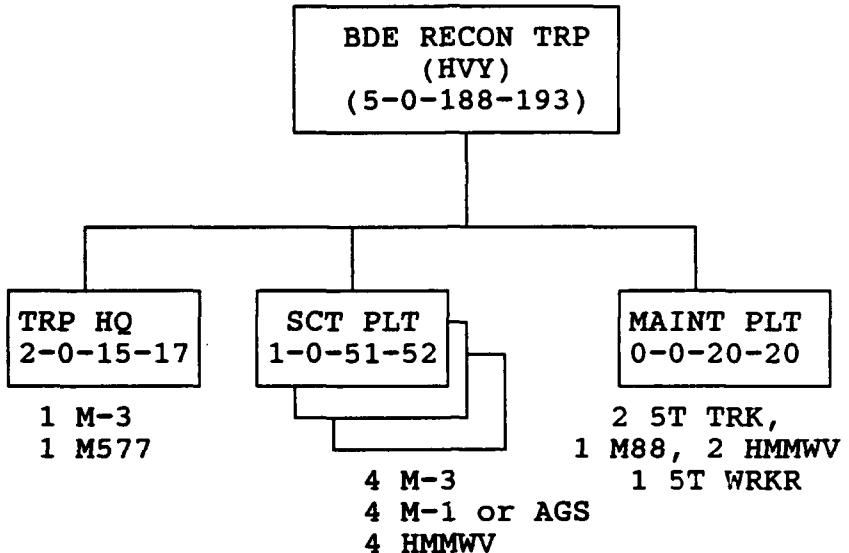


Fig. 32

Personnel and Equipment Requirements

	PERSONNEL	HMMWV	M3	AGS
ON HAND	0	0	0	0
REQUIRED	193	14	13	12
DELTA	193	14	13	12
TOTAL DELTA (X33)	6369	462	429	396

Fig. 33. Personnel and Equipment Shortages

a. Personnel and Equipment - The personnel and equipment shortages in this organization would require TRADOC to drop its zero growth requirement and require a reorganization of the force.

b. Reconnaissance - This organization can perform all the reconnaissance missions including movement to contact.

c. Security - This element can occupy twelve observation posts in a screen mission and still conduct counter-reconnaissance on three avenues of approach.

This is the largest organization and possibly the least favorable in the resource requirement of personnel. This organization is not air deployable with M-3s or M-1s. This organization is very robust and dependent upon logistical support, but it is also capable of a multitude of tasks.

It is important that the study group select the most efficient organization to accomplish this task and not be constrained by personnel or equipment.

Many question the feasibility of the military motorcycle? The U.S. Army during World War II used military motorcycles as couriers and scouts during the war. Colonel (Ret) "Hap" Hazard, a former motorcycle scout and veteran of three Army amphibious landings, commented that a man on a motorcycle is no less survivable than a basic infantryman.<sup>19</sup> This fact was observed and supported on several occasions during the Scout Platoon CEP at the NTC.

Janus Modeling of motorcycles was conducted in January 1988. The Janus modeling demonstrated that M-3 survivability was greatly enhanced with the use of motorcycles and the momentum of reconnaissance is thirty percent faster.<sup>20</sup>

### Billpayers

Four units provide possible billpayers for the manpower issue. The Long Range Surveillance Detachment (LRSD) at Division and the Long Range Surveillance Unit (LRSU) at corps could be used to pay some of the personnel bill. Currently the Military Intelligence School has proponency for these organizations. There are three Long Range Surveillance Unit companies in the Army with a total of nine officers and one hundreds and sixty-three enlisted men. These one hundred and seventy-two slots multiplied by the three companies totals five hundred and sixteen slots that would be available. LRSD, at the division organization has one officer and forty-nine enlisted men. This option would provide fifty slots multiplied by eleven divisions for a total of five hundred and fifty slots.

The Anti-tank company in the Infantry battalion could be a billpayer due to the six year delay for line-of-sight forward (LOS-F) system to come into the inventory, and the inability of the Improved Tow vehicle (ITV) to keep up with the M-1 and Bradley on the battlefield. The lethality of the M-1, used in conjunction with the M-2 indicates the ITV system may be outdated.

The Anti-tank company TO&E requires sixty-five personnel. A total of two thousand, seven hundred, and ninety-five personnel would be made available across the entire Army.<sup>21</sup>

The division structure will be reduced to nine battalions, one armor battalion was used for a billpayer to provide the tanks which are to be added to divisional cavalry squadron organization.<sup>22</sup>

The focus of this study included the historical evolution of brigade reconnaissance assets, a comparison of allied and threat organizations to our current capability, current ongoing analysis by TRADOC, and finally some organizations that could be used at brigade level to conduct missions for the brigade without giving up combat power and getting information to the brigade commander as quickly as possible.

If the scout element works directly for the brigade, the information flows from the scout platoon leader, to the troop commander and if warranted, directly to the brigade commander on the command net. The brigade commander can make a decision and direct his battalions to take appropriate action for upcoming events, predicted prior to the battalions arrival at that grid location. The process can be done in a timely manner and be expedited if the reports from the scout are sent on the brigade commander's command net and battalion commanders or their S-3s are monitoring. The commander gets pure, raw data without the filters. This allows the brigade to function more efficiently and allows the commander to utilize his battalions and companies at the proper place and time on

the battlefield. The Troop commander and the platoon leader do not analyze the information, their job is to report and not get decisively engaged.

#### Conclusion

Using the mission analysis and the battlefield blueprint in TRADOC Pamphlet 11-9 one clearly sees the need for an element at the brigade level. This chapter, using the CBRS process and the four elements of the process: doctrine, training, organization and equipment, suggests that the U.S. Army needs an organic reconnaissance and security element at the brigade.

## CHAPTER 4

### ENDNOTES

1. Sun Tzu. The Art of War. London: Oxford University Press, 1963, 100.
2. Major John S. Chappell, Security Operations: Current Net Value of NTC Lessons Learned for the Divisional Ground Maneuver Brigade. School of Advanced Military Studies, Fort Leavenworth, Kansas 1988, 63.
3. Ibid., 22.
4. U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment- Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 3.
5. Ibid.
6. Field Manual 17-98, Scout Platoon, Headquarters, Department of the Army, Washington, D.C.; June 1988, 2.
7. Martin Goldsmith and James Hodges. The Rand Study - Applying the National Training Center Experience: Tactical Reconnaissance. Santa Monica, Ca: October 1987, 17.
8. Major John D. Rosenberger, An Assessment of Reconnaissance and Counter-reconnaissance Operations at the National Training Center, U.S. Army Armor School, Fort Knox, Kentucky February 1987, 8.
9. Ibid.
10. Ibid., 10.
11. U.S. Army Armor School, "Cavalry/Reconnaissance Net Assessment - Master Plan," Briefing by Directorate of Combat Developments, 31 Aug 1988, CALL, Fort Leavenworth, Kansas, 2-7.
12. Ibid., 2-8.
13. Colonel (Ret) George Sloan, About Face, Col. David Hackworth, Simon and Schuster, New York 1989, 144.
14. NTC Take Home Packages and After Action Reports 1990 CALL, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas.

15. Major John D. Rosenberger, An Assessment of Reconnaissance and Counter-reconnaissance Operations at the National Training Center, U.S. Army Armor School, Fort Knox, Kentucky, February 1987, 14.
16. U.S. Army Combined Arms Center, "Tasking for CAC: Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," Commander, TRADOC, 15 Aug 1988, Fort Leavenworth, Kansas, 1.
17. Major James E. Wolf, Ground Reconnaissance in the Heavy Corps: Do tactical Assets match mission Requirements? School for Advanced Military Studies, U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas, 30 November 1988, 16.
18. U.S. Army Combined Arms Center, "Tasking for CAC: Reconnaissance, Surveillance, and Counter-reconnaissance Assessment," Commander, TRADOC, 15 Aug 1988, Fort Leavenworth, Kansas, 1.
19. Colonel (Ret) Sidney S. Haszard, U.S. Army Armor School Cavalry/Reconnaissance Net Assessment - Master Plan, Fort Knox, Kentucky, August 1988, 2-12.
20. Ibid., 2-13.
21. Interview with Major Jeff Brandl, 5 Dec 1991.
22. Ibid.

## CHAPTER 5

### CONCLUSION

The only thing harder than getting a new idea into the military mind is to get an old one out.<sup>1</sup>

B.H. Liddell Hart

#### Introduction

The U.S. Army is entering a new era of maintaining peace. Our forces must be prepared for operations in forward deployed and contingency situations throughout the world. An organic reconnaissance/security organization at the brigade level will greatly enhance our abilities to perform these missions.

The future force may consist of the deployment of brigade sized elements to reinforce units already in an area or require brigades to move into an unoccupied area and perform missions to support U.S. strategic interests. These brigade elements are referred to as combined arms brigade sets. To deploy these brigades in areas without an organic reconnaissance/security asset would be a mistake.

Army decision makers must answer several questions before finalizing what course of action should be taken in organizing and equipping an organic reconnaissance and

security asset for the brigade. First, as Major Craig Harju pointed out, the Army must conduct a proper front end analysis to determine exactly what role the unit should perform.<sup>2</sup> Secondly, a determination of organization size is needed. Third, the Army should determine whether the organization should be wheeled or tracked.

Once these questions are answered, the decision makers must establish a TO&E that can be implemented and supports the unit rather than create a TO&E out of necessity, as has been done in the past. The proposed element needs night vision equipment that exceeds current division capabilities, such as thermal weapons viewers, laser designators, laser range finders that are tied into global positioning systems, on-board vehicle compasses, stabilized binoculars of fourteen power, or better and some identification equipment to prevent friendly fire incidents. Additional needed equipment includes weapons such as the MK-19 40 millimeter grenade launcher, .50 caliber machine guns, STINGERS, AN-PRC 126 hand-held radios, and quick erection antennae (not the crank type).

#### Findings

The purpose of this study was to investigate the thesis question, "Does the Heavy Maneuver Brigade Commander Need an Organic Reconnaissance/Security Organization?"

In order to examine the major question, it was necessary to research each of the four sub-issues which were identified in chapter one as part of the response to the thesis issue.

#### Sub-Issue One

Use doctrine and mission requirements to answer the thesis question. The doctrine provides for and dictates a need for an asset at brigade level.

The brigade commander needs a dedicated reconnaissance/security organization. Today, the armor and mechanized infantry brigade commander is entirely dependent upon battalion scouts and divisional armored cavalry assets for his ground reconnaissance intelligence collection/data. If the brigade commander is to exercise initiative, synchronization, depth, and exploit enemy weakness on today's and future AirLand battlefields, he must have a dedicated ground reconnaissance asset.

The addition of brigade scouts will greatly enhance the ability of the brigade commander to employ his forces effectively. Brigade offensive tactics emphasize firepower and maneuver to defeat the enemy. Inherent in this is the ability to move quickly from one operation to another without delay.

The brigade commander needs his own eyes and ears to be able to see the battlefield. The reliance upon already

overtasked battalion and division assets greatly restricts the brigade commander's ability to effectively influence the battle. Brigade scouts are intended to enhance the brigade commander's warfighting capabilities. They enable him to optimize his employment of combat, combat service, and combat service support assets as part of the overall plan from higher headquarters. The information gathered from brigade scouts, combined with the intelligence apparatus already in place will allow for better synchronization of assets during offensive or defensive operations.

#### Sub-Issue Two

Why the brigade is the only maneuver asset without its own reconnaissance and security organization.

The basis for the brigade being without its own reconnaissance and security organization was the idea that the divisional cavalry squadron could provide serve both reconnaissance and security roles for the division units. The current divisional cavalry organization, with two ground troops and two air troops, does not lend itself to the division organized with three or more brigades.

This rationale is supported by two premises which were discussed under White Papers and studies.

The first premise is that no front end analysis has been conducted to determine the needs and requirements of

the brigade. The second premise is that a "top down", rather than a "bottom up" approach to the problem is taken. This issue should be closely evaluated and should be changed to assist units at the tactical level support the objectives of the command at the operational level.

#### Sub-Issue Three

To demonstrate how the organization can enhance the brigades performance. The NTC Lessons Learned indicate that diverting battalion scouts to brigade missions reduces battalion effectiveness and over-extends the platoon. Desert Storm commanders and brigade commanders with NTC experience suggested that the brigade needs an asset to perform reconnaissance and security missions.

#### Sub-Issue Four

To proffer some suggestions for the Army to rectify this problem.

Organizational recommendations were presented in Chapter four. The third organization (see Fig. 34), is balanced and makes the best use of equipment to create a very deployable, robust, organization that can conduct operations in both heavy and light environments.

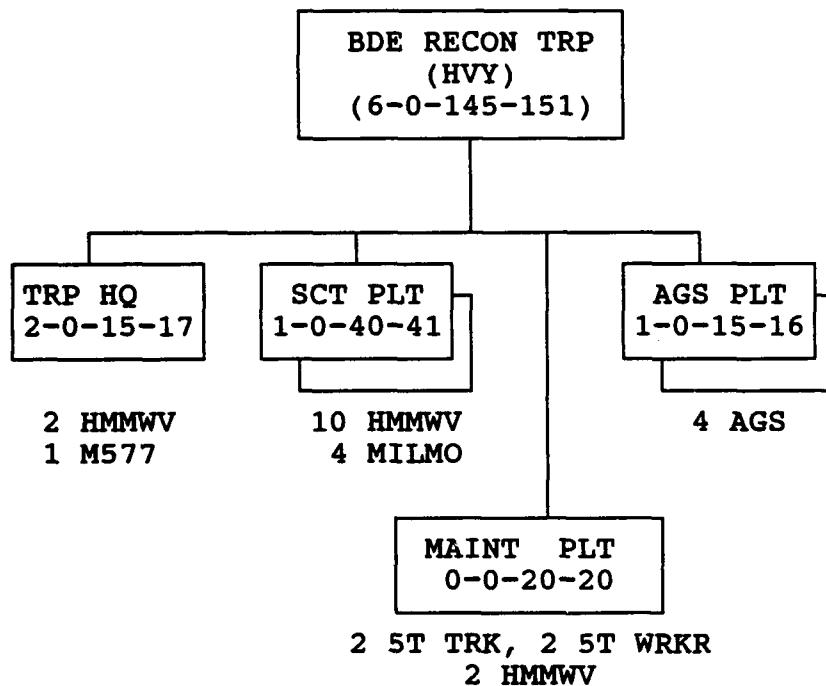


Fig. 34. Proposed Brigade Reconnaissance Troop.

Personnel and Equipment Requirements

	PERSONNEL	HMMWV	MTRCY	AGS
ON HAND	0	0	0	0
REQUIRED	151	24	8	8
DELTA	151	24	8	8
TOTAL DELTA (X33)	4983	792	264	264

Fig. 35. Personnel and Equipment Shortages.

This troop organization can best support the doctrinal needs of the brigade for several reasons.

A. Advantages:

1. Equipment requirement costs will be low depending on the cost of AGS. The vehicles will be fully crewed giving the organization a dismount capability necessary for both reconnaissance and security missions.

HMMWV production will need to be increased but the cost to maintain wheeled platoons will be much lower than tracked vehicle platoons.

2. Reconnaissance capability - This organization is capable of performing all of the three reconnaissance missions, route, area and zone. The military motorcycle and HMMWV will allow very stealthy reconnaissance to be performed and should be able to complete the missions at a faster speed. This element is able to fight for information with the AGS if necessary.

3. Security - The organization proposed in Figure 34 will be able to perform security missions including guard and counter-reconnaissance. The HMMWVs will be used for early warning and call for fires, while the AGSs can be used in blocking positions astride the main avenue of approach to destroy enemy reconnaissance assets.

4. The AGS is currently in the developmental stages and must be purchased to provide a viable alternative to the M-1. The AGS will provide the brigade with the capability to deploy its reconnaissance assets on C-130 aircraft anywhere in the world. Its flexibility will provide the brigade commander with a viable combat or liaison force to be deployed before the rest of the brigade that can give the commander a first hand intelligence update once he arrives on station. It also ties in very

well with the brigade set concept that will be used in future operations.

B. Disadvantages:

The only major disadvantage of this organization is the large number of personnel required to fill these organizations in the heavy division.(See Fig. 35) One way of overcoming the problem would be to request TRADOC drop its zero growth constraint. Another method would be to use the anti-tank company in the infantry battalion as a billpayer. This would still leave a shortage of eighty six slots to be filled.

Recommendations

A standard testing and evaluation packet should be developed by the Armor Center at Fort Knox to evaluate the reconnaissance unit shown in Figures 34 and 35 using the recommended equipment. These tests should evaluate the organization's ability to perform its missions for the brigade commander and to confirm the organization's size and equipment. This equipment and the TO&E should be provided to divisions in the continental United States (CONUS), U.S. Army Europe (USAREUR), and Korea for testing and evaluation using the packets provided by Fort Knox. Results of the Reconnaissance units tests will provide a large sample size. Due to money constraints of previous tests conducted, sample sizes of some tests, like the Scout

Concept and Evaluation Plan, consisted of one unit. The sample size needs to be larger to gather accurate data.

Modelers need to create a combat model to quantitatively measure reconnaissance and security efforts conducted by units. These organizations need to be tested in the Combat Training Centers at Fort Irwin, California, and Hohenfels, Germany in a series of scenarios.

The biggest testing constraint encountered will be the cost of personnel to form the approved brigade reconnaissance organization. Obviously the larger the organization the more personnel required to man the organization. This problem must be solved in its entirety, not piecemeal.

The military's decision to develop, but not field many weapons programs causes great concern from the field where these items are needed. Items such as the Commanche helicopter and M-1 block III tank will greatly enhance our unit capabilities but probably will not be purchased and fielded. If hostilities break-out how soon can these much needed items be produced and how soon can we train personnel to use these items? Eventually it may cost the lives of several soldiers before we see the error of these decisions. It is important that the organization and its TO&E be available immediately so training on the equipment, doctrine, and employment of the reconnaissance element are completed at the earliest time.

This paper may influence Training and Doctrine Command (TRADOC) and Fort Knox to conduct a study in depth on the feasibility of this concept for the future. This paper ties the organization into the RSTA (Reconnaissance, Intelligence, Surveillance, Target Acquisition) system which is charged with acquiring the commander's vital information needs as expressed in his priority intelligence requirements (PIR). The system needs added reinforcement in two ways. One is not having an asset to complement the reconnaissance assets at division and battalion. The second is not having a dedicated, responsive ground reconnaissance force to compliment other electronically based resources.

The need for dedicated Brigade Scouts has been documented by the Division 86 Study, the 1988 Close Combat Heavy Mission Area Analysis, NTC Lessons Learned and focused rotations. The Division 86 Study found that Brigade Scouts are required to perform reconnaissance for the brigade. The Close Combat Heavy Mission Area Analysis concluded that brigade scouts are needed for target acquisition and to provide information on brigade priority intelligence requirements (PIRs). The focused rotation found that the absence of brigade scouts deprived the brigade of fresh information about enemy and terrain.

CHAPTER 5

ENDNOTES

1. B.H. Liddel Hart, The Military Quotation Book, Edited by James Charlton, St. Martin's Press, New York, October 1990: 65
2. Major (P) Craig S. Harju, White Paper, A Study of the Maneuver Battalion Reconnaissance or Scout Platoon. 18 September 1989, 26.

## Bibliography

### Books

- Clarke, GEN Bruce C. Guidelines for the Leader and Commander. Harrisburg, PA: The Stackpole Company, 1973.
- Clausewitz, Carl Von. On War. Edited by Michael Howard, and Peter Paret. Princeton University, 1976.
- England, James W., Long Range Patrol Operations: Reconnaissance, Combat, and Special Operations. Boulder, CO.: Paladin Press, 1987.
- Fox, Lieutenant General John, "The Restructuring of the Canadian Army", NATO's Sixteen Nations, October 1988.
- Fuller, J.F.C., Armored Warfare, Harrisburg, PA: The Military Service Publishing Company, 1943
- Hackworth, Col (USA RET) David H. and Julie Sherman, About Face, Simon and Schuster, New York, 1989.
- Howe, George F. The Battle History of the 1st Armored Division, "Old Ironsides." Washington, D.C.: Combat Forces Press, 1954
- Isby David C. and Charles Kamps, Jr., Armies of NATO's Central Front. (London: Janes' Publishing Company, Ltd., 1985)
- , Weapons and Tactics of the Soviet Army. (London: Janes' Publishing Company, Ltd., 1988).
- Keegan, John, World Armies. 2nd Edition Gale Research Company, Book Tower, Detroit, Michigan 1973, 1983
- Patton, George S. Jr. War As I Knew It. Cambridge, Mass: The Riverside Press, 1947.
- Playfair, I.S.O., F.C. Flynn, C.J.C. Molony, and T.P. Gleave. The Mediterranean and Middle East, Vol.IV: The Destruction of the Axis Forces in Africa. History of the Second World War. London: Her Majesty's Stationery Office, 1960.
- Savkin, V. Ye. The Basic Principles of Operational Art and Tactics. A Soviet Point of View. Washington, D.C.: Department of the Air Force, 1972.
- Sidorenko, A. A., The Offensive: A Soviet View. Washington, D.C.: Department of the Air Force, 1970.

Simkin, Richard E. Mechanized Infantry. New York: Brasseys Publishers, 1985.

Sun Tzu. The Art Of War. London: Oxford University Press, 1963.

Triandafillov, V.K. Nature of the Operations of Modern Armies. Moscow-Lenigrad: 1929. Translated by Russian-English Translations, Inc.

Truscott, Gen. Lucian K. Jr., The Twilight of the U.S. Cavalry, Life in the Old Army, 1917-1942. University Press of Kansas, Lawrence, Kansas, 1989.

#### Government Documents and Doctrinal Manuals

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol I, Enclosure I, Order of Battle, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol I, Enclosure 3, Major Lessons Learned - Need for Battalion-Corps Recon, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 2D, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 2F, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 8, TAB N, EPW, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 9, TAB O, MP, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 10, TAB P, Prisoners of War, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 13, Annex A, After Action Slides, May 1991

Desert Storm After Action, Executive Summary and Historical Narrative, Seventh Corps, U.S. Army, Vol 15, Annex I, 1-7 Cav, May 1991

Division Restructuring Concept Report of the DA Staff/ War  
College Review Group, Carlisle Barracks, PA., 19  
January 1977.

Division Wargame and Analysis - Division Level,  
Headquarters, Combined Arms Center, Fort Leavenworth,  
Kansas, 19 July 1978.

Operational Concept - Division 86, Headquarters, Combined  
Arms Center, Fort Leavenworth, Kansas, November 1978.

Field Circular 7-93, Long Range Surveillance Unit  
Operations. Washington, D.C.: Department of the Army,  
1985

Field Manual 17-95, Cavalry Operations, Approved Final  
Draft, Headquarters, Department of the Army,  
Washington, D.C.: April 1991

Field Manual 17-97, Armored Cavalry Troop, Headquarters,  
Department of the Army, Washington, D.C.: June 1988.

Field Manual 17-98, Scout Platoon, Headquarters, Department  
of the Army, Washington, D.C.: Nov 1987.

Field Manual 34-1, Intelligence and Electronic Warfare  
Operations. Washington, D.C.: U.S. Government Printing  
Office 1987

Field Manual 34-2, Collection Management, Washington, D.C.:  
Department of the Army, Oct 1990

Field Manual 34-3, Intelligence Analysis, Headquarters,  
Department of the Army, Washington, D.C.: Mar 1990

Field Manual 34-80, Brigade and Battalion Intelligence and  
Electronic Warfare Operations. Washington, D.C.:  
Department of the Army, April 1986

Field Manual 34-130, Intelligence Preparation of the  
Battlefield, Headquarters, Department of the Army,  
Washington, D.C.: May 1989.

Field Manual 71-3, Armored and Mechanized Infantry Brigade,  
Washington, D.C.: U.S. Government Printing Office,  
1988.

Field Manual 71-100, Division Operations, Washington, D.C.:  
Department of the Army, 1990

Field Manual 100-5, Operations, Washington, D.C.:  
Department of the Army, 1986

Field Manual 100-15, Corps Operations, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1989

Field Manual 101-5-1, Operational Terms and Symbols, Washington, D.C.: Department of the Army, 1985

Goldsmith, Martin and James Hodges. Applying the NTC Experience: Tactical Reconnaissance. Santa Monica, Ca: The Rand Corp. Oct 1987

Scout Platoon Concept and Evaluation Plan, U.S. Army Armor Center, Directorate of Combat Developments, Fort Knox, Kentucky, 18 July 1988.

Red Army, Red Army Field Regulations, 1944 (Fort Leavenworth, Kansas reprint, 1987)

U.S. Army, "Division Restructure Study Brigade Evaluation" (Phase III Organization Development), U.S. Army Combined Arms Combat Development Activity, Fort Leavenworth, Kansas, Dec 1979

U.S. Army TRADOC Regulation 11-15, Army Programs - Concept Based Requirements System, U.S. Army Training and Doctrine Command, Fort Monroe, VA, Department of the Army, 1986

U.S. Army TRADOC Regulation 11-15, Army Programs - Concept Based Requirements System, U.S. Army Training and Doctrine Command, Fort Monroe, VA, Department of the Army, 1989

U.S. Army, "Reconnaissance, Surveillance and Counter-reconnaissance Assessment." Follow-up meeting for General Officer Executive Committee, U.S. Army Combined Arms Center, Fort Leavenworth, Kansas, 1988

U.S. Army, "Reconnaissance, Surveillance and Counter-reconnaissance Assessment." Briefing for General Officer Executive Committee, U.S. Army Combined Arms Center, Fort Leavenworth, Kansas, 1988

Thurman, General Maxwell R. "Tasking for CAC: Reconnaissance, Surveillance and Counterreconnaissance Assessment." U.S. Army Combined Arms Center, Fort Leavenworth, Kansas, 1988

#### Periodicals and Articles

Bergeron, Lieutenant Colonel A.J. and Captain J.S. Purser. "Dauntless Trains for War." Armor (Sept-Oct 1984): 40

- Callaham, Michael B., "Reconniassance, Surveillance, and Target Acquisition For Follow-on Force Attack." Signal, (October 1987): 83-89
- Chandler, LTC Harry W., "91st Recon Squadron in Tunisia," The Cavalry Journal 53 (March-April 1944): 14-21
- Chervenak, Jan and Eric J. Lynam. "Professional Forum: Infantry Issues and Lessons," Infantry 78, 4 (July-Aug 1988): 11-12
- Crouch, William W. "Soviet Reconnaissance Operations," Armor 90 (November-December 1981): 28-29.
- Curtis, Allen E. and Young, Duane C. Soviet Reconnaissance Part II. Combined Arms Threat Directorate and Fort Irwin, CA.
- Davis, Second Lieutenant Geoffrey C. "The Three D's of Reconnaissance." Armor (March-April 1982): 24-25
- Dempster, MAJ D.L., "Remotely Piloted Vehicles For Target Acquisition and Battlefield Surveillance: An Urgent Requirement." Canadian Defense Quarterly. (Autumn 1985): 21-24.
- Foss, GEN John W. "AirLand Battle-Future." Army Magazine, (March 1991): 20-24 and 33-37.
- Foss, Colonel John W., Colonel Donald S. Pihl and LTC Thomas E. Fitzgerald. "The Division Restructuring Study: The Heavy Division." Military Review, (March 1977): 11-21.
- Galitsan, Colonel A. "Combat Reconnaissance," Soviet Military Review, (December 1980): 26-27.
- Gibson, Colonel James M., "The Seperate Brigade," Military Review, (March 1970): 82-86.
- Gredasov, Lieutenant General F. "Reconniassance in Modern Battle." Soviet Military Review, (June 1984): 14-17.
- Grow, Major General Robert W. "The Ten Lean Years" Armor (May-June 1987): 2
- Hallman, Major Beaufort C. Jr. "Lessons Learned at the National Training Center: An Observer-Controller's Perspective." Armor XCV 5 (September-October 1986): 30-34.

- Heritage, Captain Gregory M. "NTC: Lessons Learned." Infantry 76, 1 (January-February 1986): 39-41.
- Holder, Lieutenant Colonel L.D., "Maneuver in the Deep Battle," Military Review, 62, 5 (May 1982): 54-61.
- Hollis, Colonel Charles H., "This is a ROAD Brigade," Army, (April 1963): 31-35.
- Hollis, Lieutenant Colonel James B., "Screen, Guard, Cover: What's the Difference?" Military Review, LXIII, 7 (July 1983): 67-72.
- House, Colonel Randolph W. and Captain Gregory L. Johnson, "C<sup>2</sup> in a Heavy Brigade Movement to Contact," Military Review, (November 1991)
- Humphrey, Major Vernon W. "Winning at the NTC: Reconnaissance," Infantry 74, 1 (January-February 1984) 35-37.
- Kirkegaard, Major Paul J., "Brigade: Casualty of Technology?" Infantry, (January-February 1972): 46-48.
- Kolasheski, Lieutenant Colonel Richard F., "A Battalion Commander's View of Division Restructuring." Armor (November-December 1978): 18-23.
- Korotchenko, Lieutenant General I., "Reconnaissance", Soviet Military Review, (June 1983): 44-45.
- Leur, Major General Kenneth C., "Commandant's Note: Reconnaissance and Security," Infantry 78, 4 (July-August 1988): 1.
- Leonhard, Captain R.R., "Counter-reconnaissance Company." Infantry, 78 (January-February 1988): 23-26.
- Mitchell, Captain Rodney B. "Reconnaissance Revisited," Armor XC, 6 (November-December 1981): 25-27.
- Rooney, Lieutenant Colonel Thomas O. "Put the 'Combat' in Combat Reconnaissance," Military Review, (February 1951): 36-44.
- Sendak, Colonel Theodore T. and Captain Kevin B. Smith, "History, Synergy and the Cavalry Squadron," Military Review, (November 1991): 57-66
- Steward, Major Hal D., "Cavalry in World War II", The Armored Cavalry Journal, (May-June 1946), 27.

Stouder, LTC Richard L. AirLand Operations: Are Unit Changes Needed? Military Review (October 1991): 72-77

Stubbs, Kevin D. "Beyond the Army of Excellence." Military Review, (August 1988): 24-41

Stubbs, Mary Lee and Stanley Russell Comos, Army Lineage Series, Armor-Cavalry Part I, (Washington, D.C.: Office of the Chief of Military History, 1969)

U.S. Army, "Motorized Reconnaissance in the Infantry Division." Infantry School Quarterly 35 (July 1949): 114-130

U.S. Army, Army Focus, Washington, D.C.: Department of the Army, 1988

#### Monographs

Barret, Major Raymond D., Jr. Coherence Between AirLand Battle and Contemporary Force Structure at Corps, Division, and Brigade Level. Master of Military Arts and Science Thesis, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1985.

Burkhardt, Major Robert W., Brigade Organization and the AirLand Battle. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, Dec 1985.

Chappell, Major John S., Security Operations: Current NET Value of NTC Lessons Learned for the Divisional Ground Maneuver Brigade. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1988.

Diehl, Major Thomas, Who is Out There? Tactical Reconnaissance Formations for the Heavy Division. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1988.

Griswold, Major Myron J., Counterreconnaissance Operations of the Heavy Battalion Task Force on the AirLand Battlefield. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1985.

Kienle, Fredrick R. "Reconnaissance-Pull" - Seeking the Path of Least Resistance. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, December 1990.

Kindsvatter, Peter S. The Army-of-Excellence Divisional Cavalry Squadron--A Doctrinal Step Backward? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1986.

Quinlan, Major Kenneth J., The Army-of-Excellence Divisional Cavalry Squadron. School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 1986.

Swan, Guy C., Tactical Reconnaissance for the Heavy Brigade Commander: How Much is Not Enough? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, December 1988.

Wolf, James F., Ground Reconnaissance in the Heavy Corps: Do Tactical Assets Match Mission Requirements? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, November 1988.

Wolff, Terry A., Tactical Reconnaissance and Security for the Armor Battalion Commander: Is the Scout Platoon Combat Capable or Combat Ineffective? School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, November 1990.

#### Unpublished Documents

Annan, Colonel William, National Training Center After Actions Review for 1st BDE, 4th ID. Ft. Carson, CO, February 1989.

Armored Gun System Candidate Comparison Matrix, TRADOC Analysis Center and Fort Knox Directorate of Combat Developments.

Armored Gun System, Fort Knox, Kentucky, Directorate of Combat Developments, May 1991.

Clark, Colonel Bruce. National Training Center After Actions Review for 1st Brigade, 1st ID. Ft. Riley, Kansas, March 1989.

National Training Center After Actions Review for 1st BDE, 5th ID. Ft. Polk, LA, Jan 1989.

Rosenberger, John D. An Assessment of Reconnaissance and Counter-reconnaissance Operations at the National Training Center. U.S. Army Armor School: Ft. Knox, Kentucky, 1987.

Stanfield, Steve; Plummer, Robert and Dee Christensen, "U.S. Army Training Board White Paper: Enhancement of Reconnaissance and Counterrecon Techniques." U.S. Army Training Board, 1986.

U.S. Army. Cavalry/Reconnaissance Net Assessment - Master Plan. U.S. Army Armor School, Fort Knox, Kentucky: 1988.

#### White Papers and Unpublished Materials

Armor 2000 - A Balanced Force For the Army of the Future. U.S. Army Armor Center, Fort Knox, Kentucky, July 1990.

Data Packet ROC and O&O Plan for AGS, Directorate Combat Developments, Fort Knox, Kentucky, Oct 1991.

Harju, Major (P) Craig S., White Paper - A Study of the Maneuver Battalion Reconnaissance or Scout Platoon, 18 Sept 1989.

House, Captain Jonathan M., Toward Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization, Combat Studies Institute Research Survey Number 2, U.S. Army Command and General Staff College, 1984.

Letter from Center for Army Lessons Learned (CALL), Priority Issue: Tactical Reconnaissance. 25 Nov 1986.

Orenstein, Dr. Harold S., Translations from Soviet Writings on Desert Warfare. Soviet Army Studies Office, U.S. Army Combined Arms Center, Fort Leavenworth, Kansas, September 1990.

Palmer, Robert R., "Reorganization of Ground Forces for Combat" The Army Ground Forces: The Organization of Ground Troops." U.S. Army in World War II, edited by Kent Roberts Greenfield and Robert R. Palmer, Historical Division, Department of the Army, Washington, D.C.: U.S. Government Printing Office, 1947.

U.S. Army Armor Center, 10 Vehicle Scout Platoon Briefing to MG Thomas Tait (CG, U.S. Army Armor Center and Fort Knox) Feb 1988.

- U.S. Army, Center for Army Lessons Learned Bulletin.  
Bulletin 1-86. U.S. Army Combined Arms Training  
Activity, Fort Leavenworth, Kansas: 1986.
- U.S. Army, Center for Army Lessons Learned CALL Compendium:  
Heavy Forces, Vol I. U.S. Army Combined Arms Training  
Activity: Fort Leavenworth, Kansas, 1988.
- U.S. Army, Division 86 Analytical Methodology, U.S. Army  
TRADOC, March 9, 1981.
- U.S. Army, NTC Lessons Learned, Commanders Memorandum, U.S.  
Army Combined Arms Training Activity, Fort Leavenworth,  
Kansas, Nov 1985.
- U.S. Army, NTC Lessons Learned, U.S. Army Combined Arms  
Training Activity, Fort Leavenworth, Kansas, Jan 1986.
- U.S. Army, NTC Lessons Learned, U.S. Army Combined Arms  
Training Activity, Fort Leavenworth, Kansas, May 1986.
- U.S. Army, Report of the General Board United States  
Forces, European Theater: Tactics, Employment,  
Technique, Organization, and Equipment of Mechanized  
Cavalry Units, Study # 49, Washington, D.C.: War  
Department, 1947.
- U.S. Army, Army of Excellence Final Report: Vol III, Heavy  
Division. U.S. Army Combined Arms Combat Development  
Activity, Fort Leavenworth, Kansas, 1 Oct 1984.
- U.S. Army, Report of the General Board United States  
Forces, European Theater: Tactics, Employment,  
Techniques, Organization, and Equipment of Mechanized  
Cavalry Units, Study #48, Washington, D.C.: War  
Department, 1947.
- UnPublished
- U.S. Army, "Reconnaissance and Security." White Paper by  
Directorate of Combat Developments, U.S. Army Infantry  
School undated.
- U.S. Army, "National Training Center Observation Report  
#891," Observation Report Listings, U.S. Army Center  
for Army Lessons Learned, Fort Leavenworth, Kansas,  
1985.
- U.S. Army, National Training Center Observation Report  
#1657, Observation Report Listings, U.S. Army Center  
for Army Lessons Learned, Fort Leavenworth, Kansas,  
1986.

- U. S. Army, "FY 88 NTC Brigade Rotation Take Home Packages." Summary of 14 Brigade Take Home Packages and evaluations. U.S. Army Center for Army Lessons Learned, Fort Leavenworth, Kansas, 1988.
- U. S. Army, "FY 89 NTC Brigade Rotation Take Home Packages." Summary of 14 Brigade Take Home Packages and Evaluations. U.S. Army Center for Army Lessons Learned, Fort Leavenworth, Kansas, 1989.
- U. S. Army, "FY 90 NTC Brigade Rotation Take Home Packages." Summary of 14 Brigade Take Home Packages and Evaluations. U.S. Army Center for Army Lessons Learned, Fort Leavenworth, Kansas, 1990.
- U.S. Army, "Brigade Scouts", White Paper by the Directorate of Combat Developments. U.S. Army Armor Center, Fort Knox, Kentucky, 1988.

Interviews

Blanks, CPT Ken, Project Officer, TRAC Analysis Division Combined Arms Center, Fort Leavenworth, Kansas.

Brandl, Major Jeff, Project Officer, Brigade Scouts, Force Modernization Office, Combined Arms Center, Fort Leavenworth, Kansas.

Campbell, Frank, Chief, Analysis Division, TRAC Analysis Division, Combined Arms Center, Fort Leavenworth, Kansas.

Schwartz, CPT Ken, Project Officer, AGS and Brigade Scouts, Directorate for Combat Developments, U.S. Army Armor School, Fort Knox, Kentucky.

INITIAL DISTRIBUTION LIST

1. Combined Arms Research Library  
U.S. Army Command and General Staff College  
Fort Leavenworth, Kansas 66027-6900
2. Dr. Rebecca Campbell, Ph.D.  
Faculty Development Branch  
USACGSC  
Fort Leavenworth, Kansas 66027-6900
3. Defense Technical Information Center  
Cameron Station  
Alexandria, Virginia 22314
4. Major Geoffrey L. Greetham  
Center for Army Tactics  
USACGSC  
Fort Leavenworth, Kansas 66027-6900
5. Lieutenant Colonel Roger C. Wilson  
Department of Joint and Combined Operations  
USACGSC  
Fort Leavenworth, Kansas 66027-6900